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M.D.

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LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, SEPTEMBER 28, 1839.

THE CROONIAN LECTURES

For 1839.

By John Clendinning, A.M. & M.D.
Of Oxford, &c.

As delivered at the Royal College of Physicians, May 15, 17, 22.

Connection of the Croonian Lectures of 1838 and 1839—Diagnosis of diseases of the heart —Preliminary remarks—Principal forms of cardiac disease — Passive aneurism of the ventricles—Volume of the heart in disease—Mechanical diagnosis—Percussian.

In the Croonian Lectures for 1838, I had the honour to lay before the College a series of facts that had fallen under my observation during the two or three previous years, and which appeared to me to possess a sufficient degree of interest and importance in their relations to the pathology of the heart, to warrant my publishing them in those lectures to the profession. The facts I refer to, it will perhaps be in the recollection of some, if not all now present, consisted chiefly of measurements, by weight and bulk, of the heart, encephalon, and other fleshy or solid viscera; and of the lungs and stomach amongst the more porous or hollow organs. The facts in question were classified according to age and sex in all cases, and, to some extent, according to disease; and were presented in tabular forms, and for the most part in figures denoting the average ages and weights of the several classes of subjects. I may here mention, that since March or April last, at which time I was obliged to close my numerical analysis of observations *post mortem*, in getting ready my tables for the inspection of my colleagues in this theatre, I have, as opportunity offered, continued the same method of research by weight and measure; and though more interrupted than in former years, owing to official misunderstandings and circumstances thence arising, I have, notwithstanding, in that period, obtained probably some 200 observations, leading, so far as examined, to results precisely similar to those to which I was led by the 500 and odd observations already referred to.

Main objects had in view in the lectures for 1838.—In presenting the facts last year to the notice of the College, I took occasion to remark, that they were sought for, collected, and analysed, without any preconceived views, and were then brought forward, not to substantiate any foregone conclusions of my own as to the diseases of the heart or of any other viscera, but to shew, by what to me appeared a scientifically unexceptionable method—

First,—that certain opinions extensively prevalent with regard to the causes, signs, and pathological relations of morbus cordis, were more or less erroneous, and that the morbific influence of the diseased heart was probably very much more important, and the frequency of morbid alteration of the heart very much more frequent, than distinguished pathologists seemed to me to be aware of; the former (cardiac morbific influence) extending, in well developed morbus cordis, to all or most of the other viscera, and producing in them habitual congestions, and ultimately hypertrophies and enlargements, and other morbid condition; and the latter (organic cardiac disease) becoming, from rare in early life, more and more frequent after maturity, and at length towards and during the decline of life taking the lead both for frequency and importance, of probably all other organic diseases. The facts stated went to shew further, that the principal anatomical element in cardiac diseases is hypertrophy,

or increase of muscular substance; and that morbus cordis with muscular atrophy is so rare, as to be, if not absolutely, yet at least comparatively and practically, a nullity nearly; and that the importance of cardiac valvular disease has been much over-rated, principally owing to neglect of accurate instrumental means of measuring the heart's development in pathological examinations, and partly, possibly, also to that facility with which even the most wary and sceptical minds are not unfrequently induced to accept of the suggestions of educational systems and theoretical prepossessions as genuine inferences from observation.

Secondly, and a second and subordinate but yet important object in detailing those facts, was to show, that, in addition to the means generally employed in the anatomical investigation of organic diseases more especially, it was desirable that other and more accurate means, hitherto rarely resorted to, should be employed; and that for the examination, in particular, of that most common form of grave organic mischief, namely, visceral hypertrophy, the aid of instruments calculated to detect deviations as to weight and volume, was necessary to correct the capriciousness, and prevent the errors incidental to all estimates founded on simple inspection and manipulation of the viscera. The details of the facts on that occasion, adduced for the double purpose just stated, have been for some time in print, in the pages of the Medical Gazette (vol. ii. 1838) and British Medical Almanack (1839), and require at present no further notice, probably, than the summary sketch of their character and scope above taken.

General visceral hypertrophy and cardiac asthenia in morbus cordis, also insisted on in 1838.—After stating those facts, therefore, I concluded my lectures with an attempt to account for the visceral irregularities shewn by my observations, and confirmed by those of various distinguished authors, which were quoted for the purpose, to accompany ordinarily the chronic diseases of the heart; and amongst the causes experimentally or conjecturally assigned, I insisted especially on an adynamic condition supervening on the hypertrophous heart, at a frequently early stage—if not present from the commencement — an asthenic or adynamic condition, which I argued must operate disadvantageously, by favouring visceral congestion, habituating the organs to a plethoric condition, and exciting in them abnormal nutritive action, leading, when once established, to hypertrophy with enlargement, or else to the still worse mischief of increase of density and induration.

Beyond the subject just named, viz. cardiac debility or inertia, and its consequences to other organs in morbus cordis, I was unable to proceed, within the limits of one Croonian series, and was obliged to close without noticing any of several other topics of importance suggested by my observations, and having reference principally to diagnosis and treatment. Some of the subjects, on that occasion of necessity passed over, I mean on this to treat of at such length as my time will permit, wishing it always to be borne in mind, that it is not respecting the diagnosis in general, or treatment generally, that I mean to speak, but of cardiac semeiology and treatment so far as those appear to receive illustration from my own observations and experiments.

Explanation with reference to valvular disease as a cause of morbus cordis.—But before entering on the subject of diagnosis, I beg leave to make a few observations on the subject of valvular disease as a cause of morbus cordis. This subject was treated of in my second lecture of last year, but so briefly and hurriedly, owing to press of matter, that the meaning of the lecturer was but very equivocally conveyed in more than one point; and I think it desirable to avail myself of this opportunity of explaining more clearly the inferences on that head, that appear to me legitimately deducible from my experiments and observations. In my first lecture, I stated I had not found valvular disease in more than about one-sixth of the cases of morbus cordis, in a total of between 170 and 180 cases, examined without selection post-mortem; and assuming—1. that equivalent contrary observations could not exist, owing to the general neglect of the balance in pathological researches; and 2. that hypertrophy of the heart is common without valvular disease, and valvular disease almost unknown without hypertrophy, &c. &c. I felt myself warranted in assigning to valvular disease a very small share of influence in the production of the structural lesions that constitute morbus cordis. But in replying to the question, how is valvular disease related to morbus cordis, or muscular hypertrophy, if not as a cause? I expressed myself with so much brevity as to obscure my own meaning,—whence the necessity of the present explanation. The passage, as delivered and printed, ran nearly thus:—"Hypertrophy results from vital causes exclusively, and not from mechanical ones; and the more usual result of the action of those causes, where sudden and intense, is inflammation; but when moderate and gradual, they rather produce hypertrophy—a condition akin to inflammation, and one that augments enormously the susceptibility of

the inflammatory process with which every part is normally endowed. Now to such supposed hypertrophy as the limit beyond which the operation of the vital causes referred to does not ordinarily pass, and to the morbid susceptibility of inflammation in every part too plentifully supplied with nutrient fluids, which such hypertrophy implies, I would refer almost all valvular disease occurring in mature years, especially in males, and such as could not be attributed to obvious causes, as falls, blows, or well-marked cardiac rheumatism, &c. I would thus in great part reverse the order of causation usually received, and attribute much of the valvular disease to inflammation, mainly induced, if rheumatism be excluded, by previous hypertrophy, as a most potent predisposing cause."

Intended meaning of the passage.—In the passage just cited, my meaning was, that muscular hypertrophy was related to valvular degeneration rather as a cause, however indirect, than as an effect. I conceived that what I might venture to call the sub-inflammatory process of over-nutrition, or hypertrophy with thickening, &c. was greatly more frequent in the parietes of the heart than in the valves; and that the latter, more rarely primarily affected, were most frequently altered by a sub-inflammatory action extending from the previously hypertrophous muscular substance to the ligamentous tissue of the valves;—and such continue to be my opinions. But in stating them on that occasion, I seem, judging by my printed lectures, to vacillate between something like the doctrine apparently held by several pathologists, viz. that endo-carditic inflammation arising from rheumatism, and producing disease of the valves, is the starting point in most cases of chronic morbus cordis,—and my own view, which places valvular disease in a very subordinate position; and the ambiguity of the passage was increased by repeated reference to rheumatism as a cause of morbus cordis.

Precise views of the author.— Now with respect to the mutual ætiological relations of valvular disease and muscular hypertrophy, the probable truth, so far as I have been able to decipher it, is shortly this. The muscular substance is the favourite seat of morbus cordis; and there it usually begins in the form of simple hypertrophy. From the parietes of the heart the abnormal nutritive action extends to the valves and interior lining membrane, and to the muscular tunic and exterior pericardium. The evidence of such compensating extension is this:—In the enlarged heart the valves are deeper and wider (and often very much ampler in both directions), as well as thicker often, and less transparent, though still abundantly flexible, than in the normal heart. From their sufficient amplitude of depth and width, notwithstanding the expansion of the cavities and passages, and from the absence, in most cases, of evidence during life of valvular defect, the conclusion seems inevitable that the valves must grow in depth and width as the muscular fibres increase in length and thickness. This conclusion is strengthened by the frequent manifest increase of opacity and thickness of the valvular laminæ; also by the greater frequency and extent of those opaque spots, and often by general increased opacity of the investing and exterior layers of the pericardium. In a heart which is the seat of the over-nutrition in every tissue which I have just described, the occurrence of alterations producing well-marked functional incapacity, is easily understood. The muscular tissue, it is well known, is little liable to any other morbid change in structure than increase of volume or hypertrophy. But not so the membranous structures of the valves, and interior and exterior tunics of the heart. In those, an excessive nutrition is capable of producing other very important changes, even without amounting to inflammation. But it is in the laminæ of the valves that the physiological importance of those changes is specially important. In the valves, a very moderate increase of density is capable of compromising seriously their functional capacity. Induration seems usually to include diminution of flexibility, and not unfrequently shrinking or contraction also; and a valve having even a single lamina too short, or too shallow, or too rigid, is no longer equal to what, in the language of engineering, may be called its "duty."

In addition to the mischiefs just pointed out, as likely to arise from the existence of simple excess of nutritive action in the valves, it is not to be forgotten that a peculiar liability to inflammation attends the hypertrophous state. Hence, while the parietes are found simply hypertrophous, we, in a considerable number of cases, find the valvular tissue extensively vitiated—viz. indurated, contracted, osseous, puckered, nodulated at the edges, or otherwise incapacitated; and at the same time, in a smaller but yet considerable proportion of cases, we find the pericardium either disfigured by organized exudations of lymph, which give rise to adhesions, or else projecting from its surface, deprive it of its usual polished smoothness; or by

depositions in or under the muscular tunic, or in the substance of the exterior loose layer, of the sac.

Additional considerations.—Such are the inferences at which I have arrived as to the more usual relation between muscular and valvular hypertrophy in morbus cordis, and such are the experimental facts from which those inferences are directly deduced. But those are not the only grounds of the conclusions stated.

1. To those might be added the opposite laws that seem to govern the distribution of acute rheumatism and morbus cordis, in their relations to age. Acute rheumatism is, I think, generally held to be a disease of youth and manhood, rather than of declining years; while I have, I conceive, rendered it probable that morbus cordis becomes more frequent precisely as life wanes; being more rare in manhood than in age, and in boyhood more rare than in vigorous manhood. If this contrast be well founded, it seems clear that the impression that rheumatic inflammation is a principal remote cause of morbus cordis, in the large sense of the word as used in these lectures, is but indifferently well founded.

2. We might also add to the preceding reasons, the comparative rarity of pericarditic appearances in the chests of subjects of morbus cordis. According to my observations, we have, for one case of morbus cordis involving pericarditic adhesions or depositions, at least eight or ten cases of cardiac chronic disease, presenting no traces whatsoever of pericardial inflammation. In this, also, my views differ widely from those of Professor Bouillaud and others; and with respect to endo-carditis, I have come to a like opposite conclusion.

3. To the above-stated considerations, opposed to the valvular origin of morbus cordis, might be added the excessive frequency of disease of the right ventricle, when compared with disease of its valves. But having sufficiently explained what I said so obscurely, because, with so much compression and brevity, last year, it is unnecessary to dwell longer on this subject on the present occasion. Suffice it to say, in conclusion, that while, with a full conviction from my own observation of its truth, I subscribe to the opinion that valvular disease arising in an otherwise normal heart would almost of necessity be followed by muscular hypertrophy, and that adhesion of the pericardium, or other pericardial disease capable of embarrassing the cardiac action, would prove equally effective in producing disease of the parietes and cavities, I still see no reason for believing that valvular defect or pericardial adhesions can be considered as the principal, much less the only remote causes of cardiac hypertrophy, or for doubting that the great exciting cause or causes of the excessive muscular development in morbus cordis remains still to be discovered.

Conjecture of the lecturer. — And on this subject, if I were to hazard a conjectural anticipation of the results of future demonstrations, I should say this: — All men are naturally susceptible of cardiac muscular hypertrophy, as of every other disease, when exposed to exciting causes of sufficient energy. But of any number of persons, however favourably circumstanced for the production of the disease, but a fractional part has ever been known to suffer from it. To account for such a difference of results, different degrees of susceptibility are easily admitted, and, upon persevering analysis, the final result is, that men differ in original conformation and capacities; so that one man, temperate and prudent in all things, shall, without obvious cause, become a subject of morbus cordis,—and another, cautious and moderate in nothing, and perhaps, further, much exposed to unavoidable unfavourable influences, shall reach an advanced age with the heart in a condition perfectly normal. Now the great source of that light hitherto withheld from the great and paramount department of pathology which embraces the causes of disease, must, I conceive, be the law that governs those differences of original conformation and vital power just alluded to; and so long as the varying amounts and relations of primary influences so uncertain as those differences shall continue, as at present, wholly conjectural, and without *tests* to identify or *constants* to measure them, there seems not much reason to regard much (and probably the greater part) of our ætiological illustrations of disease as any thing better than, in some cases, ingenious speculations and surmises, and in a majority of instances, hypothetical rubbish.

I now enter on the chief business of these lectures—viz. the diagnosis of cardiac disease.

Diagnosis of morbus cordis.—The semeiology seems the only part of the scientific history of disease of the heart in which, as yet, any considerable progress has been made. Centuries before the cardiac pathology was at all appreciated, considerable progress had been made in the anatomical and physiological history of pulmonary disease. The general uses and high importance of the lungs, must, from the nature of things, have been obvious to the earliest and rudest physiological observers;

so that the attention of pathological inquirers must have been directed to the respiratory organs from the earliest times. With respect to the heart, however, it is well known that a correct appreciation of the importance of that organ could not well be looked for prior to the discoveries of Harvey. Up to his time, it was not so well understood as it has now become, that amongst the most urgent wants of organic life, was to be reckoned an unceasing interchange of blood between the lungs and the rest of the animal frame, and in all parts a constant progressive motion from artery to vein, and from vein to artery, around the vascular circle; and equally little was the great truth known, that of all this unintermitting locomotion, and of these alternating conditions of the fluids, as well as of their general circular movement, the heart was the central agent and certain mainspring.

To such ignorance of the functions of that great instrument of animal life, the heart, we must, I presume, refer the inattention to its pathology of the earlier observers. And on referring to the collections even of those that have written since the middle of the seventeenth century, we find little or no notice of other forms of disease of the heart, almost, than excessive hydro-pericardium, suppuration of the pericardial sac, adhesions of the pericardium to the heart, ossification of the valves, and sometimes of other parts, and not unfrequently the *cor bovinum*, or enormous hypertrophy of the heart, occasionally and but rarely met with. Of the comparatively moderate hypertrophy, which seems to me so common as to exceed in frequency, many times over, all other forms of cardiac disease, and which, though not so hopeless as many other forms of morbus cordis, is, it must be admitted, a very grave and formidable structural lesion, we find in those writers almost no trace. Even in more recent writers and authors of the last fifty or sixty years, there is great want of precise information as to the distinctive characters, whether anatomical or semeiological, of cardiac disease; nor do I think that before Laennec's discoveries it was possible, with certainty, to diagnosticate morbus cordis in the greater number of cases, that is to say, when the hypertrophy was not great, nor the heart's action vigorous. The addition, however, now some twenty years since, of Laennec's method of investigation to that of Avenbrugger, has enormously increased our means and facilities for the detection of morbus cordis, which is now amongst the most easily and certainly detected of organic diseases. Now the points of view in which the results of my researches (assuming at present their correctness as close approximations) have important bearings on cardiac diagnosis, are numerous, and some of them in strict accordance with prevalent opinions, but to others, unfortunately opposed more or less to them. To the consideration *seriatim* of those topics, it becomes now my duty to advert.

Preliminary remarks respecting passive aneurism and diseases of the auricles.—Before entering, however, on the particulars of any of those topics relating to cardiac diagnosis, it is necessary, or at least convenient, that I should offer some preliminary observations, in order to explain why, in my enumeration of the species of heart disease that require each for itself a distinct account of its diagnostic symptoms, I pass over some topics much enlarged upon by preceding writers, and considered apparently of great importance. The topics I refer to are the varieties observed in morbus cordis, arising out of differences in different instances, in the distribution of the hypertrophy and enlargement; that condition being sometimes, it has been held, altogether wanting, but in most cases present, though not always equally divided between the sides and cavities. And in the first place, let me guard myself against the suspicion of an unworthy desire to depreciate the meritorious and most useful labours of descriptive pathologists, by stating that I fully admit the existence, abstractedly considered, of almost every variety of heart disease pointed out by those who have studied the heart most exclusively after the Natural-History method; and in the second place, that I acknowledge that most of the varieties described are of great importance, and such as to warrant fully the most elaborate descriptive histories that have been given of them.

Principal forms of morbus cordis.—With respect now to those various forms of disease themselves, I should say that the first, in frequency and importance, is the hypertrophy, with enlargement of the left ventricle—a morbid condition of vast interest, and upon which, in its sthenic stage, several recent cardiologists, and amongst others Dr. Hope and Dr. Copland, have dilated very instructively. Next comes the like condition of the right ventricle. This is of much inferior importance to the former; for though apparent enlargement is common enough, enlargement with well-marked hypertrophy is, I think, comparatively unfrequent. After these, follow in frequency and importance the valvular class of cases, a class nearly always involving hypertrophy and enlargement of the left ventricle at least,

and, indeed, in most cases of both ventricles. After these should follow the diseases of the auricles, and then dilatations of cavities, not including augmented nutrition and parietal thickening.

Passive aneurism of the ventricles and disease of the auricles unimportant.—But with respect to those two latter classes I must say, that I doubt, if I do not deny, the existence of the last class, and the importance of either class. Enlargement, with thinning of the walls, has been supposed to occur in all the cavities, though most frequently in those of the right side. To such enlargement, with thinning in the ventricles, has been ascribed the feebleness of the heart's throb, and of the arterial pulse, so often met with in cases of great enlargement. To the same cause have been attributed certain abnormal peculiarities in the character and audible extent of the cardiac sounds, viz. that the sounds of systole and diastole, but especially of the former, have been found shorter in time and shriller in tone than normal; and that the whole cardiac effort has been completed more rapidly and closed more abruptly, so that the enlarged but attenuated adult heart has rendered sounds, short, clear, and sharply defined, almost as those of the heart of a child. To this enlarged and attenuated condition have further been ascribed very important pathological consequences, presumed *mediate* results of debility in the central organ, and *immediate* effects of embarrassment and irregularity in the remoter and minuter channels, but especially in the venous circulation.

To the dilatation, with or without thickening of the auricles likewise, important consequences have been attributed; and supposing the auricles, or either of them, to propel blood too plentifully or forcibly, the corresponding ventricle, it is easily understood, would quickly feel and react on the increased stimulation, and ventricular hypertrophy and enlargement would probably result. On the same grounds it might also be apprehended that abnormal expulsive efforts in the auricles might greatly embarrass, as the case might be, either the greater or lesser circulations, or both together, by causing regurgitation into the valveless cava, or equally patescent veins of the lungs, or into both sets of veins at the same time. From a condition of the auricles opposite to vigorous action, viz. inertia or debility, also, important inconveniences might be conceived to arise both to the ventricular functions and venous circulation.

With regard to the latter, or disease of the auricles, however, it is first to be noted that there are no pathological observations, so far as I know, that substantiate the claims that have been advanced on their part, as important or morbific conditions. Those claims, speaking of them generally, have been apparently deduced rather from theory than experience. In a considerable proportion certainly, and I suspect in the great majority of supposed dilatations with attenuation, or at least without observed hypertrophy, the loss of muscular substance has been apparent only, and not real. This condition occurs usually on the right side, and is the result of a slow death, partly owing to the superior tenacity of life of the right auricle and of the right cavities, probably in common, and to the consequently more tardy arrival in those cavities of inertia and cadaveric rigidity; and owing partly also to previous congestion, and at length complete stagnation, in the vessels of the lungs, in consequence of the complete cessation of the normal efforts of the respiratory muscles, while the veins still continued to pour into the auricle their distending humors.

Physiological arguments continued.—To the absence of unequivocal pathological evidence may be added the want of physiological facts to shew that the auricle contributes in any such manner as pathologists have supposed, towards either section of the general circulation. The auricles, it may be urged, are muscular and contractile; and further, that in experiments on living hearts *in sitû*, and *out of the body*, they have occasionally, by myself and others, been seen to contract and expand alternately, being, when examined in action *in sitû*, found to fill with blood in their diastole, and become hard and small in systole, in like manner with the ventricles. It is, however, notwithstanding such facts, very unlikely that the auricles contribute in any very important degree as contractile organs to the cardiac circulation, or that they are any thing other, practically, than extensions of the veins respectively, and *diverticula* or contrivances to provide againt contingent irregularities in the ventricular action or venous currents. That they are no more than just stated seems sufficiently probable, from this circumstance alone, that they are unprovided with any valvular structures sufficient to prevent reflux into the veins; and with respect to the latter canals are, in fact, in a constantly patescent state, admitting, apparently, so far as their exterior orifices are concerned, with equal facility, influx from without and efflux from within their cavities. Now such a state in an organ acting like a ventricle would seem adapted for no end so completely as that of embarrassing the *vena cava*, and consequently retarding and

deranging the main current in the first instance, and afterwards the smaller affluents of the venous circulation. Add to this the fact, that in the great majority of observations on the living heart, whether *in sitú* or *out of the body*, no action resembling either systole or diastole has been perceptible in the auricles, even during the uninterrupted continuance of the normal alternations of action in the ventricles. On the whole, then, there seems to be neither in pathology nor physiology any sufficient reason for attaching much comparative importance to the auricles.

With respect to dilatation with attenuation of the heart's cavities, it is in any event, as it regards the ventricles, if not apparent only, at least too rare to possess any great interest, or require much notice in a large view and general account, such as this of cardiac morbid development. Genuine organic disease, then, of the auricles, and passive cardiac aneurism or dilatation with attenuation of the ventricles, if I rightly interpret, the facts that I find recorded, or have myself observed, are so unfrequent as to be, for all practical purposes, when compared with other forms of cardiac disease, unimportant. I conceive, therefore, that I have had sufficient warrant for so slightly noticing them, and might, perhaps, without great impropriety, have wholly omitted the consideration of them.

Additional reasons.—Two additional reasons might be added, if more were needed. One is this: the diseases of the auricles and the passive aneurism of the ventricles, are not distinguishable by any means that I know of, from other more important diseases of the heart. Those of the auricles, I believe, have never been supposed to possess diagnostic signs, at least since the negative character of their functions has been generally recognized. But not so the attenuated enlargement of the ventricles; for with regard to that form of morbus cordis, the opinions of Corvisart and Laennec are still prevalent traditions in the profession. Indeed, since the discovery of the true causes of the heart's sounds through the researches of Drs. Carswell, Rouanet, Billing, Hope, Williams, and other distinguished experimentalists and observers, foreign and domestic, the doctrine of passive cardiac aneurism (or enlargement with attenuation) has become even more completely incorporated with our nosological systems and elementary medical literature than before; being now provided with a proper ætiology and semeiology, accommodated to the most recent and improved physiological researches. On this account, notwithstanding the manifest inconveniences of repetition, I could not avoid here making a few short remarks before passing on to the next topic, were it not that another opportunity will present itself under the head of the sounds of the systole and diastole, and the diffusion of those sounds over the parietes of the chest.

Mechanical diagnosis of morbus cordis.—There is a general impression, I think, among pathologists, that, in the majority of cases of chronic disease of the heart, there is increase of volume in that organ. This remark applies equally to those cases in which the heart is supposed to be increased in volume or size only, without any increase in substance or weight. Now this prevalent opinion corresponds entirely, so far as it goes, with the results of my own experiments and observations. By very numerous trials, by weight and measure, in air and water, I found experimentally that the diseased heart nearly always exceeds in linear dimensions the normal standard; the exceptions being rare, and consisting almost exclusively of cases of concentric hypertrophy, or spastic contraction of the left ventricle, especially occurring during the agony apparently, and rendered permanent by speedily supervening cadaveric rigidity.

The first and most obvious and direct method of ascertaining the development of the heart is, therefore, the measuring of the extent of the dulness of the præcordial resonance by percussion, and observing the area over which the cardiac impulse is perceptible to the hand. Also, by inquiring whether the systolic and diastolic sounds can be heard in distant parts; as behind over the middle or lower lobes, or on the right side of the sternum. When the heart contracts with energy, there is further to be noted the momentum of its impulse, which, in sthenic hypertrophies, is often the most satisfactory of all the signs.

Percussion.—Now with respect to the first, or the direct linear measurement, if I may so call it, by percussion, the ease and certainty of this method is, in favourably circumstanced cases, quite admirable. By laying the hand across the præcordia, with the fingers spread out in a radiated manner, and striking on each of them in turn, as on a pleximeter, it is possible, in many cases, to measure with surprising accuracy the dimensions of the heart in the transverse direction; but it is necessary that the lungs be sufficiently porous, that is, free from phthisical or pneumonic indurations in the parts immediately beyond the heart's outline, in order that the difference of resonance be satisfactory. By striking on the outspread fingers, as above described, I have in numerous instances been able to satisfy myself in a few moments of the

heart's excess of volume, the dulness being very often perceptible from the edge of the sternum to the nipple and beyond. But in examining by percussion, in the vertical direction, the difficulty is greater to fix on the limits sought for. In the upper limit of the cardiac region, doubtless a difference of resonance is usually easily obtained that points out at once the extent to which the heart is developed in that direction. But the difficulty respects the determination of the inferior boundary of the cardiac dulness, from detecting which we are prevented in different instances by the stomach or the liver, the former, or stomach, embarrassing us with a resonance often equalling or rather exceeding that of the central parts of the lungs, at a point where little or no pulmonary substance exists; the latter, or liver, rising in a different and posterior plane, but to as high a level as the lower part of the heart, so that no sensible interval of pulmonary resonance divides the cardiac from the hepatic regions. To supply the want of such a space of pulmonary resonance, it has been proposed to assume that on the left side the height of the diaphragm corresponds in all cases nearly with that on the right side, where what, in a communication to the Med. Gaz. for Jan. 7, 1837, I have ventured to call the *summit level* of the diaphragm, is easily determined, and may indeed, as Dr. Edwin Harrison has pointed out, be known by simple inspection or application of the hand; and with this assistance it may be possible to measure the living heart in the vertical direction as accurately as in the transverse. But though a collaborateur of Dr. Harrison's in certain decisive experiments, of which, as above stated, I communicated the particulars to the Medical Gazette, and which were made *in mortuo*, with a view to ascertain the practicability of determining *in vivo*, by simple means, the height to which the liver rises under and behind the ribs, I have not made much use of the results of those experiments, or at any rate have not been careful to record a sufficiency of facts relating to the point, to entitle me now to give a decided opinion.

With respect to the upper boundary of the heart's position, there is occasionally a source of difficulty in consolidation of superior parts of the lung, which makes the contrast in resonance that we seek too narrow to be perceived; or in an emphysematous condition, by the excessive resonance of which the dulness of the cardiac sound is more or less compensated for, and consequently masked; and this latter source of error not rarely extends through the whole cardiae region.

Owing to one or more of these sources of fallacy, it is very frequently not practicable to diagnosticate with certainty, in cases of enlargement, by unaided percussion of the præcordia. Of this, Corvisart, Piorry, and Bouillaud, who have paid most attention to this point of cardiac semeiology, seemed to have been fully aware, to judge by the care with which they enumerate and describe such other conditions as appeared to them of any value as signs of disease of the heart.

CLINICAL REPORTS

OF

DIFFICULT CASES IN MIDWIFERY.

By Robert Lee, M.D., F.R.S.

Physician to the British Lying-in Hospital, and Lecturer on Midwifery at St. George's Hospital.

FIFTH REPORT*.

Cases of Distortion of the Pelvis in which Premature Labour was induced.

Case CXI.—At 8 p.m., 16th April, 1831, I was called to a patient residing at 4, Brewer Street, who had been in labour with her fourth child the greater part of the day. I found the orifice widely dilated, but the membranes were unruptured, and the presenting part was beyond the reach of the finger. At 10 p.m. I ruptured the membranes, and ascertained that the presentation was natural. The pains were strong and regular, and continued to return at short intervals till 3 o'clock on the following morning, when they began gradually to diminish in strength and frequency. At 6 a.m. the pains had wholly gone off, and the head was firmly impacted in the brim of the pelvis, and much swollen. The pulse was frequent and feeble, and all the usual symptoms of exhaustion were present. At 7 a.m. Dr. H. Davies saw the patient, and agreed with us in thinking that immediate delivery by craniotomy was necessary. After opening the head I found little difficulty in extracting it with the crotchet. No bad symptom followed.

I afterwards learned that this woman had been delivered of her first child by the same means.

At the end of the seventh month of her second pregnancy labour came on

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* For the preceding Reports see the volume just concluded.

spontaneously, and the child was born alive without artificial assistance, and has been reared.

Premature labour again came on spontaneously at the commencement of the eighth month of her third pregnancy. The nates presented, and the child was also extracted alive.

Dr. H. Davies induced premature labour at the seventh-and-a-half month of her fifth pregnancy, and the child was born alive, but died soon after in convulsions.

Occurrences similar to those observed in the preceding case must have originally suggested the idea of bringing on premature labour artificially in cases of distorted pelvis, and probably led, in 1756, to that consultation of the most eminent practitioners of midwifery in London, at which the practice was approved of, and soon after successfully carried into effect by Dr. Macaulay.

Case CXII.—On the 20th of May, 1828, a woman, 29 years of age, with slight distortion of the pelvis, was admitted into the British Lying-in Hospital to have premature labour induced. Dr. H. Davies detached the membranes from the lower part of the uterus without rupturing them. Labour came on eight days after, and the nates presented. I succeeded in extracting the trunk and the extremities without much difficulty, but the head could not be drawn through the brim of the pelvis without the employment of much force for a considerable period, during which time the pulsations in the cord gradually ceased, and the child was born dead.

This patient had been six times pregnant, and had gone to the full period twice, when it was necessary to open the head of the child.

Labour came on spontaneously at the seventh-and-a-half month of her third pregnancy, after an accident, and the child was born alive, and has been reared.

Dr. H. Davies has induced premature labour three times since, at the seven-and-a-half month of pregnancy, in this patient; but although the children have all been born alive, none of them have long survived.

Case CXIII.—In the autumn of 1829 I was requested to see Mrs. ——, under thirty years of age, who had been forty-eight hours in labour with her first child. The orifice of the uterus was not fully dilated, and the vagina was swollen and tender. The head of the child presented, and it was strongly compressed by the brim of the pelvis, through which the greater part of it had still to pass. The labour pains were becoming more and more feeble, and had no effect in advancing the head. The pulse was rapid, and the strength much exhausted. As the forceps could not be applied, and immediate delivery was required, I opened the head, but the bones and integuments of the skull were much lacerated before the delivery could be completed with the crotchet. No unfavourable symptom followed.

In 1831, Mrs. —— being in the seven-and-half month of her second pregnancy, I resolved to induce premature labour. For this purpose I detached the membranes from the cervix of the uterus with a large bougie, the os uteri being too high up to be reached with the finger, and the separation of the membranes effected by it. A week elapsed, but no labour pains came on. I employed the bougie a second time, still more freely, but no signs of labour followed.

Dr. Merriman then saw the patient, and recommended puncturing the membranes with a slender silver catheter, much bent. I placed her upon the sofa, on the left side, with the knees drawn up to the abdomen, and separated. The exact situation of the os uteri was then ascertained with the fore finger of the right hand. Along this finger, the fore and middle fingers of the left hand were then passed up to the posterior lip of the os uteri, and in the groove formed between these fingers the point of the catheter was pushed gently forward into the orifice of the uterus, and it passed upward about three inches towards the fundus uteri, before I was sensible of any resistance produced by the membranes. The liquor amnii immediately began to flow through the catheter, when the membranes were punctured, and labour pains followed in a few hours. The labour was very tedious, but the child was at last expelled alive, and is now, in 1839, a fine healthy boy.

Case CXIV.—In 1835, Mrs. W. being at the end of the seventh month of her third pregnancy, another medical practitioner was consulted, who after three unsuccessful attempts succeeded

in inducing labour. The liquor amnii did not begin to escape until a week after the last effort. The presentation of the child was preternatural, and it was still born.

Case CXV.—On the 28th Dec. 1837, Mrs. W. being near the end of the eighth month of her fourth pregnancy, I punctured the membranes without difficulty with the stiletted catheter, which I have employed for this purpose during the last three years. The os uteri was situated very high up, and it was directed backward to the sacrum. The liquor amnii began to escape immediately after the stilette had perforated the membranes, and it continued to flow slowly during the whole of the 29th. Neither on this nor on any other of the former occasions could the presentation be ascertained when the membranes were perforated. Labour pains became strong and regular on the afternoon of the 30th, and the head presented. At 10 P.M. the head was expelled, after remaining four hours strongly compressed in the brim of the pelvis. On clearing the brim it was born in a few minutes. The child could not be made to breathe for some time, but the respiration was at last fully established, and the child lived and enjoyed good health for about a month, when, after exposure to cold, it was suddenly destroyed by inflammation of the lungs. Dr. Child was present when the membranes were perforated.

This patient did not suffer from rickets in early life, and in no other part of the body is there any appearance of distortion.

These cases are sufficient to prove that the practice of inducing premature labour at the seventh-and-a-half month of pregnancy, in slight distortion of the pelvis, is attended with little danger to the mother, and that it has been the means of preserving the lives of children who must otherwise have been sacrificed. There are many similar cases recorded by other writers in this country, which show that the strong prejudice against the induction of premature labour entertained by most continental authors is not well founded, and that the unfavourable judgment pronounced upon it by the French Academy, in 1827, ought to be reversed.

In the cases which follow, the advantage of inducing premature labour was not less striking, although the degree of distortion was so great that a child even of seven months could not be born alive. The greater number of the best practical writers on midwifery in this country have considered the induction of premature labour applicable only to cases of slighter distortion, and have considered it improper in first pregnancies, and before seven complete months of utero-gestation have elapsed. Little has been said by them respecting the safety and utility of the operation in cases of great distortion, to obviate the danger to the mother of fatal contusion or laceration of the uterus and vagina, which are always to be dreaded where much force is required to extract the head of the child.

"If the pelvis be so far reduced in its dimensions," observes Dr. Denman, "as not to allow the head of a child of such a size as to give hope of its living to pass through it, the operation cannot be attended with success. It is in those cases only in which there is a reduction of the dimensions of the pelvis to a certain degree, and not beyond that degree, that this operation ought to be proposed, or can succeed*."

As the primary object is to preserve the life of the child, Dr. Merriman thinks the operation should never be performed till seven complete months of utero-gestation have elapsed.

As early as 1769 it was proposed by Dr. Cooper to induce abortion in cases of extreme distortion of the pelvis. "Before I conclude," he remarks, in his History of a Fatal Case of Cæsarean Section, "allow me to propose the following question, viz.—in such cases, where it is certainly known that a mature child cannot possibly be delivered in the ordinary way alive, would it not be consistent with reason and conscience, for the preservation of the mother, as soon as it conveniently can be done, by artificial means to attempt to produce an abortion†?"

Case CXV.—On Tuesday, 9th January, 1838, Mr. Robertson, of Jermyn Street, requested me to see a patient who was in the seventh month of her

* Denman, vol. ii. p. 217.
† Med. Obs. and Inquiries, vol. iv. p. 261.

first pregnancy, and whose pelvis and extremities were distorted by rickets in infancy. From an examination of the pelvis, we thought that the short diameter of the brim was less than three inches, and that a child, at the full period, could not pass through it without having the volume reduced by perforation. We resolved, in consequence, to induce premature labour, though it was the first pregnancy, and though a rule had been laid down that the practice should never be adopted till experience had decidedly proved that the mother was incapable of bearing a full-grown fœtus alive. I had no difficulty in perforating the membranes with the stiletted silver cathether, which I had employed before in similar cases of distortion. The liquor amnii began to escape immediately after, and continued to flow for three days; and labour pains then came on. For forty-eight hours they were feeble and irregular. Mr. Robertson then found the os uteri considerably dilated, and a foot of the child protruding through it. He extracted the trunk and extremities without difficulty; but he could not succeed in drawing the head through the brim into the cavity of the pelvis. I passed the point of the perforator up to the back part of the head without difficulty, and having made a free opening through the integuments and skull, the brain began to escape. The point of the crotchet was then introduced into the opening, and fixed upon the base; and by drawing down with it, and at the same time pulling upon the body of the child, the head soon passed through the pelvis completely flattened on the sides.

She recovered without a bad symptom. This is the only case in which I have induced premature labour in the first pregnancy.

Case CXVI. — On the 17th May, 1839, when the same patient had completed the seventh month of her second pregnancy, I punctured the membranes with the stiletted catheter. The liquor amnii began to escape immediately after, and continued to flow the whole of the following day; and in the evening violent labour pains came on. The nates presented, and Mr. Robertson had no difficulty in extracting the child without perforation of the head. On the 19th the usual symptoms of ruptured uterus soon appeared, and she died on the 22d. On the 24th I examined the body with Mr. Robertson, and we found a large rent in the cervix. The pelvis is now in my collection at St. George's Hospital, and the following are its dimensions:—The distance from the base of the sacrum to the symphysis pubis measures two inches and one line. The transverse diameter of the brim is five inches and three-quarters. At the outlet a line drawn between the tuberosities of the ischia measures four inches and a half, and another line from the extremity of the coccyx to the lower edge of the symphysis pubis, three inches and a half.

Had premature labour been induced at the end of the fifth month instead of the seventh, it is very probable the unfortunate termination of this case would have been prevented. The spontaneous rupture of the uterus was produced by the great projection of the base of the sacrum.

Case CXVII.—On the 5th December, 1829, the late Mr. Baker, surgeon to the St. James's Parochial Infirmary, requested me to see Mrs. Ryan, æt. 21, who had been in labour thirty-six hours. It was her first child. The head presented, but no part of it had entered the brim of the pelvis. The orifice of the uterus was about half dilated, and its margin was thin and soft. We estimated the short diameter of the brim of the pelvis at less than three inches, and the distance between the tuberosities of the ischia at two and a half. Both upper and lower extremities of this patient were bent from rickets. Four hours elapsed, after the head was perforated, before we succeeded in extracting it with the crotchet, and not till the bones of the cranium were all torn to pieces. A violent attack of uterine inflammation followed, which had nearly proved fatal.

Case CXVIII.—On the 30th December, 1830, when this patient was in the eighth month of her second pregnancy, I induced premature labour by puncturing the membranes. The labour was allowed to continue till it was certain the head of the child could not enter the brim of the pelvis. The head was then perforated, and easily extracted with the crotchet. The difference between

this and the former operation was very striking.

Case CXIX.—On the 26th April, 1832, when Mrs. R. was in the seventh-and-a-half month of her third pregnancy, I induced labour. The feet of the child presented, and the delivery was accomplished without craniotomy. Child dead.

Case CXX.—On the 12th July, 1833, I again induced labour in this patient at the end of the seventh month. The inferior extremities again presented, and the child was still-born.

Case CXXI.—Mrs. R. again became pregnant, and I induced labour on the 13th February, 1834, exactly seven months after the last appearance of the catamenia. The presentation was natural, and the child was born alive after a tedious labour. It lived sixteen days, and then died in convulsions. The child was extremely small.

Case CXXII.—Mrs. R. became pregnant a sixth time, and went into the British Lying-in Hospital at the seventh-and-a-half month, where I induced premature labour by puncturing the membranes, on the 27th December, 1834. The feet presented, and great force was exerted before the head could be extracted. The recovery was less favourable than before.

Mrs. Ryan became pregnant a seventh time, and determined she would not again submit to the induction of premature labour. (See Case XI., first report.)

Case CXXIII.—On the 23d August, 1836, I again brought on labour in this patient at the seventh-and-a-half month, by perforating the membranes, which was easily done with the stiletted catheter. Labour pains came on in twenty-four hours, and the lower extremities of the child presented, and the child was extracted dead, with the head bruised and flattened. Messrs. Gaskoin and Stutter were present.

Case CXXIV.—On the 30th August, 1837, Mrs. R. being at the end of the seventh month of pregnancy, I perforated the membranes with great ease, and labour followed the same evening. The feet presented, and the trunk and head of the child were much contused before Mr. William Highmore, who had the charge of the case on this occasion, could extract the child. The labour pains came on immediately after the membranes were punctured; she recovered favourably.

Case CXXV.—Mrs. R. again became pregnant about the end of December 1837. "On the 17th of January, the catamenia not having appeared, she began taking the secale cornutum for the purpose of producing the expulsion of the ovum. She began by taking gr. xii. four times a day in infusion. This having produced no effect in six days, the dose was increased to gr. xv. four times a day. In six days more this was increased to a a scruple four times a day. In six days more this was increased to gr. xxv. without any effect. The dose was then increased to ʒss. four times a day. Mrs. R. then left off the ergot for one week; when she again resumed it she took ʒj. doses four times a day for four days, and this having produced no effect whatever, she left off taking it altogether."

Mrs. R., therefore, took seven ounces of the ergot of rye, which was all procured from Butler's, Covent Garden. As Mr. Highmore procured the ergot, and gave it to her, I have no reason to suppose that the ergot was not taken, as stated, and in greater quantity than I was aware of at the time, or would think prudent to exhibit in other cases. Labour not having followed, I perforated the membrane on the 25th July, 1838, with the stiletted catheter. The pains soon after came on, and the labour was completed in thirty-seven hours. The child was dead, and its head and face were of a dark colour, and much swollen and livid. Dr. Zettwah and Mr. E. H. Hills were present on this occasion.

[To be continued.]

ON THE

DIAGNOSIS OF PERITONITIS.

By Alfred Aspland, Esq.

[*For the London Medical Gazette.*]

The records of systematic authors will be searched in vain for a detailed account of traumatic peritonitis, and yet its features are striking and peculiar.

Having no standard definition to refer to, the following appears to me accurate:—

Peritonitis, arising from mechanical injury of the membrane itself or of some neighbouring organ.

General inflammation, the result of a wound of the abdomen, is very rare, as it is commonly partial and reparatory: it by no means rarely follows suppuration in the perineum and pelvic operations, even the most trifling, as the passage of the catheter. Here we find active inflammation produced with no contiguity of structure to explain it, apparently the result of communication between the sacral plexus and sympathetic, and by reversing the order of morbid phenomena, we explain what undoubtedly is the fact, that paralysis not unfrequently follows diseases of the bladder and rectum, and succeeds, probably by the same process, the morbid condition of the colon in painter's colic*.

In two cases of ulcers of the stomach, painful spasms of the muscles of the upper part of the body, and pain down the course of the spine, marked the period of perforation, and continued till death relieved the patient from suffering.

That peritonitis should follow pelvic operations is not wonderful; but it is singular that inflammation of the other serous membranes of the trunk should obtain from the like cause.

I have heard Dr. Addison state that in his experience traumatic peritonitis is almost invariably accompanied by pleuritis; nay more, that the latter lesion is often in marked excess. Such has been the case in all the cadaverie inspections that I have witnessed. Pathological records testify the frequency of disease of the pericardium where permanent stricture of the urethra exists.

To the medical jurist the just appreciation of these lesions, and their relation of cause and effect, is of prime importance; yet they are not recognized by the profession generally. A case in point occurred some months ago in Salop. A woman received some severe blows over the abdomen from her husband. She died on the fifth day: a medical man examined the body, and finding scanty peritonitis and excessive pleuritis, gave it as his opinion that the unfortunate woman died from natural causes, and not from the effect of the injuries. He allowed that the blows produced the peritonitis, but conceived it too slight to destroy life. To cold he ascribed the pleuritis: acting upon this opinion the jury acquitted the prisoner, and the law was evidently foiled of its victim.

A few cases are on record of idiopathic peritonitis attacking robust persons, and running its course unmarked by the usual and striking symptoms of *pain and vomiting*, but from their rarity they justify the stress which authors lay upon these in the diagnosis of the disease. Such, I venture to suggest, is not the case in the traumatic disease, which is variable in its form, insidious in its course, and very fatal in its termination. I am quite speaking within bounds when I say, that in half the cases of traumatic peritonitis that I have witnessed, diagnosis could only rest upon suspicion; in some the scalpel gave the first intimation of its presence. Old age, debility, the malignant diathesis, and other causes producing cachexia, weakening the vital powers, will explain some of them, but many occurred in persons of robust frame. I fear that many patients have sunk, from the disease being overlooked, who might by timely treatment have been saved.

I select the following cases to illustrate my proposition:—

Jane ——, aged 20, of middle stature and healthy appearance, applied for the removal of some warty excrescences from the labia. She stated, and her appearance warranted it, that her habits were temperate, that she had never suffered from syphilis, but that she had been the subject of gonorrhœa for two months.

The warts were removed by the knife in the usual way. I saw her the next day; she was then very ill. The face was pale and anxious; the eyes had a sunken appearance, and were surrounded by a dark areola. Decubitus on the back; legs extended; skin hot, slightly perspirable; tongue dry, red at the tip, furred at the base and in the centre; pulse frequent, jerking, and compressible; sickness incessant; thirst urgent. There was no pain in the abdomen, not even tenderness under strong pressure. The medical attendant regarded it as a case of hysterical vomiting, and was treating it with ether, laudanum, and magnesia. Struck with the peculiarity

* See Portal's works.

of her expression, I suggested the presence of acute peritonitis, but he appealed to the entire absence of abdominal pain, tenderness, and distension, and continued his treatment. No change occurred till the third day, when the abdomen became the seat of fugitive pain; leeches were now applied, but it was too late, collapse had already commenced, and she sank in twenty-four hours. A section of the abdomen displayed slight lymphy deposit and serо-purulent effusion, coating the whole extent of the peritoneum.

Alice Jackson, æt. 40, admitted March 25. Her history ran thus:—Up to the period of her attack she had been strong and active; she had noticed a tumor in the left groin, for 6 or 7 years, but had never experienced inconvenience from it till the 23d March, when vomiting and epigastric oppression first announced strangulation. On examination a flaccid tumor was found protruding from the saphenous opening, part of which was easily and immediately reduced. The abdomen was natural; there was no tension or pain, even during active manipulation. Countenance pale and anxious, tongue red and dry; thirst distressing. An enema produced evacuations. Mr. —— now saw the patient, and though the countenance evinced increasing distress, he determined to defer the operation, influenced by the following circumstances: — The impossibility of peritonitis existing in the total absence of pain, tenderness, or tension; the fact that the bowels had been twice relieved during the short time that she had been in the hospital.

In the evening she had another motion, but the vomiting continued unabated, and the ejected matter had a strong feculent odour. Still there was not the slightest pain or discoloration of the tumor.

On the morning of the 26th the sickness was constant, and the countenance anxious in the extreme. Mr. ——— now operated. A portion of the small intestine was strangulated, of dark colour, but smooth and even surface; it was returned into the abdomen, and the operator, considering the absence of pain, and the relief of the bowels, unhesitatingly gave a favourable prognosis. She died eight hours afterwards; and the presence of numerous adhesions, and a pint of bloody serum in the abdominal cavity, left no room for doubt as to the existence of peritonitis in its most acute form.

In the above cases sickness was urgent during the whole course of the inflammation; but there are few practitioners, probably, who cannot recal one or more cases where it was either very slight, or altogether absent. If, then, the two most salient points in the diagnosis of peritonitis do not necessarily belong to it, it will be asked, what pathognomonic sign there is? The answer will be, examine the expression of the face. Here we shall rarely be at fault. Nature points to the countenance—to the pallor—intensely anxious expression of the mouth and eye—to the sunken appearance of the latter—to the darkened areola round it—to the expansion of the alæ of the nose during inspiration, more marked than normal, not sufficiently so for acute thoracic disease; to these she points with almost unerring certainty in the diagnosis of peritonitis.

Every one acquainted with the elements of our profession is aware that an overlooked peritonitis is, in nine cases out of ten, fatal, and Mr. ——'s case shows the prime practical importance of not waiting, where strangulation of the bowels exist, till abdominal pain is established, but of repeatedly examining the expression of the face. It is not unreasonable to suppose that had a correct diagnosis led, in the above cases, to appropriate treatment, that both their lives might have been saved.

Ashton-under-Lyne,
Sept. 1839.

SMALL-POX AND VACCINATION IN NEWARK.

To the Editor of the Medical Gazette.

Sir,

I have been led, in the course of my daily duties, to believe that a permanent record of the state of any population with respect to small-pox and vaccination for any given period (as for the year 1839, for instance), would answer several important ends. Among others, such a census would serve as a standard of comparison, both as regards time and place; and it might prove a useful stimulus in favour of, I am almost ready

to say, an expiring blessing, by revealing the low ebb to which in these districts vaccination is unfortunately fallen. I respectfully beg your acceptance of a record of this nature for the East Ward of the borough of Newark in the county of Nottingham.

Newark contains at this date from 10,500 to 11,000 souls, and is situated on a navigable arm of the river Trent, near the foot of an eminence, broad and of no great height, called Beacon Hill, which is surrounded by rich levels of great extent, frequently flooded by the Trent and Witham. One third of the town lies low, on a damp black loam; while the other and larger portion is raised from twenty to thirty feet above the surface of the river, and stands on gravel and fine sand.

Newark is healthy; but its atmosphere is moist and relaxing.

Assuredly there is not here the amount of privation of the necessaries of life that we find in other places. The houses in which a visitor perceives decided marks of continued destitution are only (in this ward) from four to five per cent. of the whole according to my experience this summer; and in many instances I am aware that the fault lies in the individuals themselves.

Within the last fifteen years the inhabitants of this county have made great advances in the comforts of life, more particularly in their houses, clothing, and personal cleanliness. The result is, that I have found much less struma and feebleness of frame in Newark than I expected; and not much active disease of any kind.

This borough is divided for municipal purposes into three wards, nearly equal in population. Their size, compactness, and notoriety as to boundaries, &c. make these civic divisions very manageable in statistical investigations. My engagements not permitting me to embrace the whole town, I confined my inquiries on the subject under consideration to the ward in which my house is placed.

As it would occupy by far too many of your pages were I to request you to insert the original tables containing a great number of particulars respecting 3406 individuals, I shall proceed to give in a short table a numerical summary of the information collected.

Name.	Present Age.	Inoculated.				Vaccinated.				Casual Sm. P.				Remarks.
		Age when	Mark. P.	Mark. I.	Mark. N.	Age when	Mark. P.	Mark. I.	Mark. N.	Age when	After Inoc.	After Vac.	After neither	
Luke Brown	53	3	1	...	...	...	...	...	...	...	...	...	...	Severely pitted in face.
Mary Jones	3	...	...	...	...	2½	...	1	...	...	...	...	...	Mark superficial.
Edward Dodd	79	...	...	...	...	...	...	...	...	5	...	...	1	Small Pox mild.
Hannah Tebb	28	...	...	...	...	1	1	...	...	3	...	1	...	
Thomas Sims	3	...	...	...	...	...	...	...	...	...	...	...	...	Unprotected.

First, we have here the name of the person, and his or her age: then follows a column for the age of the individual when he was inoculated, together with others, wherein to indicate the state of the mark on the arm, whether perfect, imperfect, or not visible. Vaccination is similarly provided for; as well as casual small-pox, whether after inoculation, vaccination or after, neither of these diseases. A large space is left for remarks.

A Tabular View of the number of Persons who have passed through the Small-Pox and Cow-Pox, or who have had neither disease, in the East Ward of Newark-upon-Trent, for the year 1839.

Population of East Ward in 1839.	Inoculated. State of Mark. Perf.	Imp.	None.	Total.	Had Small Pox casually. After. Inoc.	Vac.	Neither.	Total.	Vaccinated. State of Mark. Perf.	Imp.	None.	Total.	The unprotected.	Total of Persons examined.
3454	893	171	36	1100	8	55	791	854	878	186	33	1097	355	3406

On comparing the great total examined, with the real number of the population (as nearly as I could learn), forty-eight will be found unnoticed. These I have been unable to reach for various ordinary reasons.

The details which are not to be compressed into a short table, I shall now endeavour to preserve, arranging them under four natural heads, according as they refer to inoculated and casual small-pox, to vaccination, and to the unprotected portion of the population.

Inoculation.—It is not to the credit of an enlightened community that after thirty-eight years' diligent promulgation of Dr. Jenner's inestimable discovery nearly two-thirds of a municipal ward in a respectable town on the great North Road should have passed through the small-pox, and that 1100 should have submitted to this loathsome disease advisedly*. The vast majority of these last were inoculated in their infancy or early childhood.

Only thirty-three were older than ten years; and only one more than twenty years of age.

Fifteen only out of the 1100 have been much pitted, or one in seventy-three; but of these ten were so severely marked, that not a point of natural skin remained in the face. I took no note of the cases where the pits were only few in number.

With respect to the mark or scar upon the arm left by inoculation, I pronounced 893 to be perfect, 171 (16 per cent) imperfect, and in 36 persons ($3\frac{1}{2}$ per cent) it was altogether wanting.

As far as I am aware we have at present but a very brief description of the mark after inoculation. It is only said, by Rayer and others, to be a large and deep cicatrix like that produced by cauterization. This is true as far as it goes; but it should be added, that it is circular or oval, and that, when of some standing, it is hard, and traversed by a very varying number of sharp ridges, often short and confused, but more frequently converging from the circumference to the centre of the mark. It is to be stated also that depressions, pits, or foviæ, are very common, and which are not to be distinguished from those observed in the scar after vaccination. In a young female, who had small-pox in this ward after *inoculation*, they were both numerous and distinct.

Wherever I found the cicatrices from one-third to three-fourths of an inch in diameter, or even an inch occasionally, and possessing a fair portion of the above mentioned characters, I considered them perfect; and this the more readily, as I found that they had been protective.

The marks which I took to be imperfect were the very superficial, the smooth superficial, the very irregular in shape (from excess of inflammation), the small and smooth, the very small, and very large. I have seen a circular mark, two inches in diameter, perfect, except as to size.

The inoculated mark is very lasting. It is to be seen in full force on the arms of some octogenarians, after having been placed there in their childhood; but on the whole, the lapse of years has a tendency to make it smooth and superficial.

I have thought it worth while to give rough sketches of the natural size of marks not seldom met with, and yet perhaps little known, save to the few who attend particularly to the diseases of the skin. It is most probable that they are protective.

Number 1 is often seen in young people. No. 2 is quite the same as a cicatrix, which will be found figured as No. 3, among the vaccine marks. Numerous short striæ issue from the circumference of a smooth white disc.

I saw No. 3 five times after inoculation, and four times after vaccination. It is a circular cicatrix, shallow, and glazed, with 14 to 18 foviæ studding the circumference in a ring.

No. 4 is to be remarked for its size and shape, but more especially for the accuracy with which it is divided into halves; the lower half being filled with radiating striæ, while the upper is white, smooth, and shining.

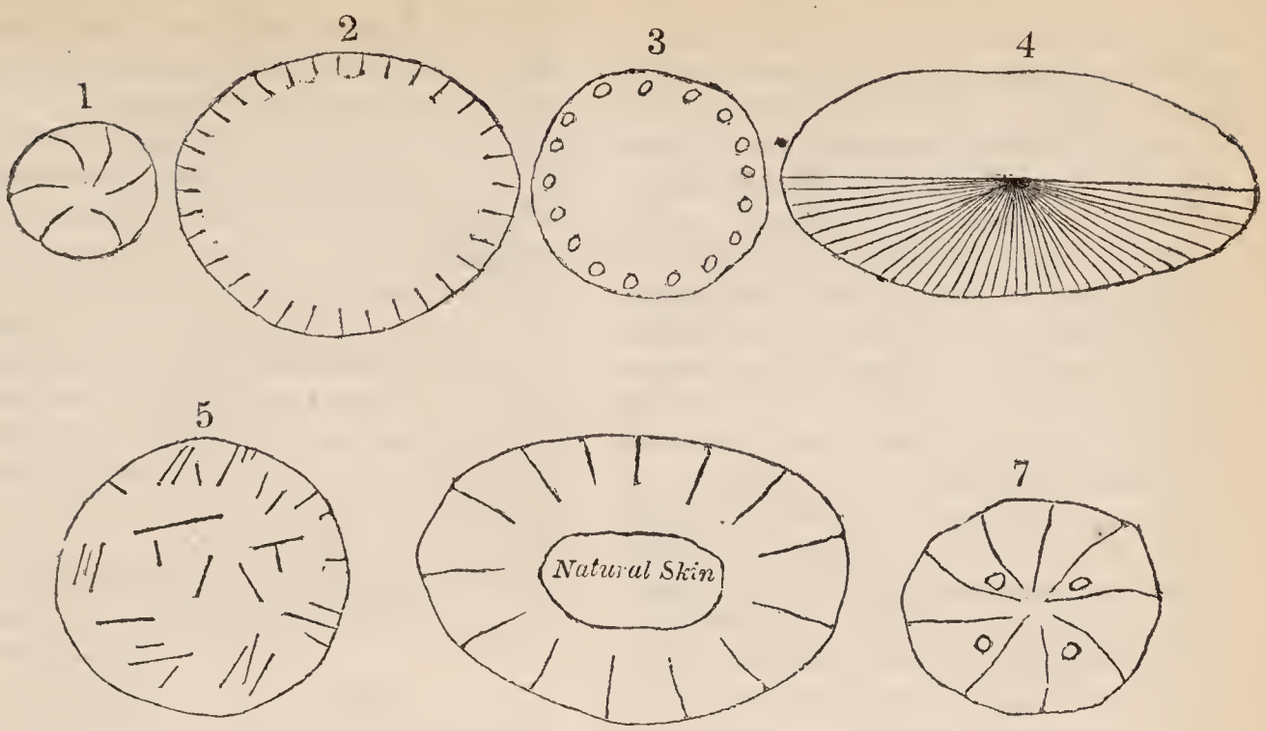
No. 5 is an example of a cicatrix with broken and disturbed ridges.

No. 6 is curious for the oval space in its centre of perfectly sound skin, standing on a glazed surface traversed by 14 striæ.

No. 7 is often met with.

I have included 35 persons among the number of those who have been inoculated, although no marks appear, because they clearly remembered the operation and its subsequent indisposition, or be-

* A distressing event took place in this town some years ago: an inoculated child infected its mother: the mother died, and left behind her six young children.



cause there were marks elsewhere on the body.

The Casual or Natural Small-Pox.

We find the number of persons in this ward, who have had this disease by casual infection, to be 854, or one quarter of all the persons examined—a proportion whose magnitude is much to be regretted.

Fifty-five of these had been previously vaccinated, and eight had been inoculated.

The following little table shews that more than one-half of the 854 underwent the disease between the ages of three and ten years; and it further tells us how rare casual small-pox is at the extremes of life; and this for obvious reasons. It appeared, four years ago, in a man now sixty nine-years of age, in so severe a form, that he remains to this day a very emaciated object.

Age.	Male.	Female.	Total.
While *in utero* ...	1	3	4
At 3 weeks	1	0	1
,, 4 weeks	0	1	1
From 1 to 6 mon.	14	31	45
,, ½ to 1 year.	43	54	97
,, 1 to 2	53	64	117
,, 2 to 5	143	123	266
,, 5 to 10 ...	94	100	194
,, 10 to 15 ...	17	39	56
,, 15 to 20 ...	12	14	26
,, 20 to 25 ...	3	6	9
,, 25 to 30 ...	3	0	3
At 36.....	1	0	1
,, 45.....	0	1	1
,, 56...	1	0	1
,, 65.....	1	0	1
	387	436	823*

* This is 29 less than the actual number of those attacked casually. The persons omitted could not remember the date of their seizure.

Forty-seven more females than males have been attacked casually,—a circumstance for which I cannot account.

In casual small-pox I found 16 per cent. much marked in the face (indicative of a severe disease), instead of 1¼ per cent. as in inoculated variola. The actual number in this ward thus disfigured by *natural* small-pox is 132. Of these again in 94 the features are wholly covered with marks, and often seamed.—(71 per cent.)

This number, 94, is composed of fifty-seven males and thirty-seven females, giving a proportion of nearly three males to two females; so that sex seems to have had some influence.

These disfigurations do not seem confined to any one complexion or temperament. There is no doubt, however, but that struma now and then caused other very serious sequelæ, especially as regards hearing and sight. Two females and one male have had the small-pox casually twice, They are persons of credibility; and I believe the satisfactory accounts they give of themselves.

Two females were born full of the pustules of small-pox; and in one of both sexes the eruption appeared two days after birth.

Eight cases have occurred of variola

after inoculation—six of them in females. In five of the eight, the marks on the arm were imperfect, and in the remaining three none whatever were to be seen. Thomas Roberts, one of the sufferers, was two years old when inoculated, and caught the disease in the natural way in his 56th year. In the other instances the interval was much shorter; as 1, 2, 6, and in a person now 60, 15 years. The disease was in most cases severe.

The proportion of the vaccinated who are afterwards affected by small-pox in a well-marked form is a point of great importance; indeed, upon this must ultimately depend the fate of vaccination.

Fifty-five persons have had variola after vaccination, or $5\frac{1}{2}$ per cent. of the whole vaccinated; and the secondary disease was severe in 11 per cent.

Dr. Gregory (Med. Chir. Trans. xii. 336) says that there is a remarkable connection between the degree of perfection in the vaccine cicatrix, and the violence of the secondary disease; but this did not hold good at Newark; some of the worst cases had remarkably good scars. Of our 55, 15 had imperfect marks—an unusual large proportion; and in three there were none whatever; but in these I had sufficient evidence of the operation and of the accompanying fever.

The per centage of small-pox after vaccination here given nearly agrees with that stated by Mr. Roberton in his able pamphlet recently published; and with the results derived by Mr. Field from ten years' experience in Christ's Hospital.

Mr. Cross of Norwich rates it as from two to five, and the records of the Brighton Lying-in Institution at 9 per cent.; but Dr. Gregory has shown that during occasional epidemics it may rise far higher.

All the cases have occurred in young persons, mostly below eleven years of age; and the same is pretty true with small-pox after inoculation.

Puberty seems to have had little to do in the matter, as the following table will show.

Ages of persons when attacked by small-pox after vaccination.

Ages.	Number of Persons.
From birth to 3 years.....	6
,, 3 to 5.....	5
,, 5 to 10	20
,, 10 to 15.....	13
,, 15 to 20.....	4
,, 20 to 25	5
At 27 years.....	1
	54

The person left out of this table was ignorant of the date of her attack.

The intervals between vaccination and secondary small-pox are very loose and scattered, as we see here exhibited. Five persons had each an interval of five years, five others of seven, and so on.

Persons.	Intervals in years.	Persons.	Intervals.	Persons.	Intervals.	Persons.	Intervals.	
5	5	3	11	2	6	1	15	
5	7	3	13	2	10	1	16	
4	1	3	14	2	12	1	19	
4	2	3	21	1	$\frac{1}{4}$	1	22	
3	4	2	$\frac{1}{4}$	1	$\frac{1}{4}$	1	25	
3	8	2	3	1	9	0	0	
24	...	16	...	9	...	5	0	54—Total persons.

Dr. John Thompson, of Edinburgh, in his researches on the varioloid, noticed the same irregularity. The eruption he found to occur at various intervals, from a few days to 15 years; not warranting the suspicion, that the preventing or modifying power of the cow-pox was weakened or exhausted by time.

Of Dr. Gibson's 251 cases of modified small-pox (Edin. Med. Surg. Journ.) it appears that by far the greater number were those vaccinated less than two years before.

On my first seeing these 55 cases of secondary variola, I neglected to inquire into the state of their health at the period of vaccination; but on revisiting seventeen of them in succession for this purpose, I found that they were well at the time, had no disease of the skin, and that the progress of the vesicle had been satisfactory. In one, however, the vesicle had been much disturbed to procure lymph. Whether in all these cases the lymph itself was good cannot now be ascertained.

As has repeatedly occurred before, I found the vaccinated children of the same parents very apt to take on the modified small-pox. This took place in seven families with us.

A young lady, who resides in this ward, is an uncommon example of variolous idiosyncracy. She was carefully vaccinated when three-quarters of a year old, and the cicatrix is still good, as I am informed. At five years of age she had a well-marked attack of small-pox, as identified by several competent observers. When of the age of fifteen she had another attack, mild, but distinct, also recognized as variola by many medical men. At the age of twenty-three, while at Brighton, this young lady had the disease a third time, and in a confluent form, which, however, passed away without leaving any but slight marks on the face.

The daughter of Dr. Stewart, late of Plymouth, was vaccinated in her infancy, and bore evidence of the disease having gone through its regular stages. In about three years she had the natural small-pox, and after an interval of several years, the same disease attacked her again in a very severe degree (Med. Repos. iii. p. 38.)

Dr. Jenner knew a Mrs. Gwinnett, of Cheltenham, who had the small-pox five times (Baron's Life of Jenner.)

Vaccination.—It is certainly to be lamented that the number of persons found to be vaccinated in this ward is less than that of the inoculated, although the difference is very small.

Two males and one female were inoculated direct from the cow. Of the former, a boy was thus protected at Tewksbury, and a man, twenty-three years ago, by an army-surgeon at Barnaby, near Brigg in Lincolnshire. The woman was vaccinated, in Devonshire, by a Mr. Sims, more than forty years ago. From her three of the surgeon's children were infected, and so on through the neighbourhood.

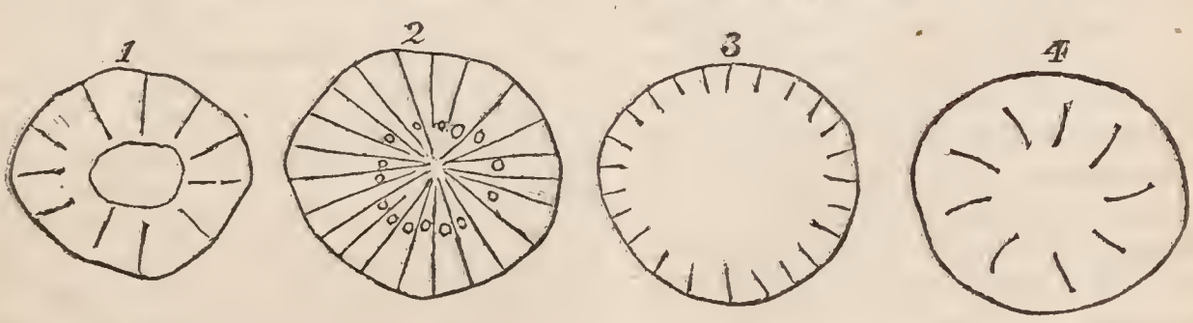
1097 persons have been vaccinated in this municipal division. As in variola, the proportion of the imperfect mark to the perfect is 16 per cent.; and three per cent. of the whole have no mark. Two of the imperfect marks were tested successfully by inoculation. The pustule produced ran a short and blighted course. This mode of trial is very rare in England.

I do not think the proportion just mentioned large, considering the difficulty under which vaccinators labor of watching the nature and progress of the vesicle. Its apparent simplicity will, I fear, be fatal to Jenner's discovery.

The vaccine mark or scar, when in its pure form, I have found just as described by Willan long ago, and more minutely since by Dr. G. Gregory. Dr. Gregory says that it is distinct, circular, radiated, and cellulated (M.-C. Trans. xii. 337.) Rayer very aptly calls it "a gouffred cicatrix."

In judging of its imperfection, I was guided by much the same rules as those adopted in judging of the inoculated mark.

I have here sketched four outlines of the vaccine cicatrix of somewhat common appearance. Among other things they shew the diversity prevailing in the number of the striæ.



Dr. Geo. Gregory, in one of his definitions of a perfect cicatrix, limits the number of cells to six or eight, but I have more frequently found double and

treble that number. They disappear, I think, in the course of time, are numerous at first, and then become obliterated.

The pits (perhaps representing cells) are often disposed concentrically in double or single rows, and they observe, quite as often, no discernible order.

The vaccine marks differ principally from the variolous in greater delicacy of structure generally; they are less rugged, hard, and deep, and are more abundant in foveæ. In one case, I noticed that a hair arose from the bottom of every one of nine foveæ. Many think that these pits have no connexion with the cells of the vesicle, but are mere depressions in the denuded corion; for they appear occasionally, as I well know, in the cicatrices of burns and scalds; but I have seen these depressions well marked, when, from the remarkable superficiality of the scar, the corion must have suffered little or nothing.

By far the greater number of persons are vaccinated before the end of their first year: thus, out of 1097, there are but sixty-nine who were vaccinated after their fifth year, and only nine after their twelfth.

If it be true—and the notion is now very prevalent, that the protective power of vaccination wears out after an uncertain term of years, it follows as a natural, undeniable, and most serious inference, that by far the greater portion of those who imagine themselves under its benignant influence, are in truth open to the attacks of variola.

This opinion is mainly supported by evidence from Germany, and it is assented to by English practitioners, reasoning from more limited observations; but seeing the numerous centres of infection created daily without bad consequences in and about Newark by inoculators, and by wayfaring families, I cannot at present but imagine that the efficacy of vaccination is more durable than is supposed. We have had in all Newark only eight deaths from small-pox in 25 months—and this has been about the average for 12 years past.

Re-vaccination is recommended every seven or ten years. Only let the public think this necessary, and cow-pox will soon be obsolete. As it is, I found the other day in the village of Thorpe, 3½ miles from this place, that out of 45 persons (examined by Houserow) 43 had had the small-pox naturally or artificially, and that only two had been vaccinated.

But if, indeed, all persons are liable to variola at the end of the tenth year after vaccination, as is supposed, then 614 of our vaccinated population are now defenceless, as we learn from the following table, in which are arranged, in eight periods, of 5 years each, the intervals since the inhabitants of this ward were vaccinated.

Table of Intervals since Vaccination.

Sex.	From 1 day to 5 years.	From 5 to 10	From 10 to 15	From 15 to 20	From 20 to 25	From 25 to 30	From 30 to 35	From 35 to 40	Total.
Male....	113	97	100	60	35	31	36	14	486
Female..	126	89	82	78	62	55	46	15	553
Total..	239	186	182	138	97	86	82	29	1039*

Vaccination is principally employed by the upper ranks among us, although even among them there is reason to fear that its value is undergoing depreciation. It is not unexampled to find one of these families begin with vaccination, and then, on the occurrence of some single untoward event, they inoculate all the younger children.

The unprotected, that is, those persons who have neither passed through cow-pox nor small-pox, are numerous. The chief causes of this are, the absence of any pressing and immediate occasion for protection, the growing indifference to vaccination, and among the poor, the great expense of inoculation*. One respectable female, aged 85 years, has through life refused protection artificially, from ill-grounded religious notions, as was often observed during the first introduction both of inoculation and vaccination. Nevertheless, no one

* Those who have had secondary small-pox are excluded, as well as a few who did not know when they were vaccinated.

* This is from 4s. to 4s. 6d. for each child among the non-medical inoculators.

is too old to die of the small-pox. At one of the friendly tea-meetings of the Medical Society of Geneva, to which I had in 1833 the honor of being invited, M. Decandolle, the distinguished Professor of Botany, related a striking anecdote in connexion with this point.

He said, that when vaccination was new, he was present at a meeting of the Institute of France, to receive a report on the subject. The report was accordingly read; much was said in admiration of the discovery: some of the members were to be vaccinated, and all were to be vaccinators. On the next chair to M. Decandolle sat a very aged duke of dignified appearance. He too had a word or two to say; it was all, in his opinion, very excellent, but he had gone on prosperously enough for 84 years, without troubling Dr. Jenner, and he should crave leave to continue so to do.

That day month M. Decandolle attended another meeting of this scientific body, and observed that the seat of his high-bred and well-satisfied neighbour was vacant. He inquired for him —he was dead of the small-pox!

Four persons, of both sexes, in this ward, have times without number resisted the natural small-pox. Three are now past middle life; and one has slept in the same bed with his child full of the eruption.

Twelve, of various ages and sexes, have resisted inoculation many times each; and, in eleven other individuals, the same has taken place with vaccination.

I have been at the trouble of arranging the present ages of the unprotected portion of our population of 3454 souls into the following table. It is not destitute of interest, and brings, within the influence of *number*, facts only known hitherto in the general.

Five-sixths of the whole are under eleven years old: the older persons belonging, without exception, to the working classes.

From the above facts the following conclusions may perhaps be drawn:—

The community is not sufficiently aware of the very great value of vaccination, less than one-third having availed themselves of its preservative power. This is a result of my inquiries for which I was unprepared; and for which an immediate remedy should be provided.

Ages of the unprotected.	Male	Fem.	Tot.
From birth to ¼ year old	14	19	33
,, ¼ to 1 year old ...	37	40	77
,, 1 to 5	64	62	126
,, 5 to 10	18	17	35
,, 10 to 15	9	8	17
,, 15 to 25	3	9	12
,, 25 to 35	5	5	10
,, 35 to 45	6	4	10
,, 45 to 55	5	5	10
,, 55 to 65	4	5	9
,, 65 to 75	1	2	3
,, 75 to 85	0	3	3
Total	166	179	345*

Vaccination appears to be entitled to all that qualified, but warm, approbation which for ten years it has enjoyed; but judging from experience in this ward, inoculation is very much the better guarantee for the individual. So fully impressed are the majority of our population with the superior security afforded by inoculation, and so jealous are they of interference with the management of their children, that, in my humble opinion, the legislature cannot add beneficially to the penal enactments already in force with respect to small pox, except perhaps by rendering it imperative for unprofessional persons to take out a licence to inoculate, bearing a stamp of a certain value.

It is not in the power of the medical practitioners to put an end to inoculation. If they should refuse to perform this operation, a sufficient number of uneducated inoculators would start up immediately, and find good remuneration, as is the case in and about Newark at this moment.

Vaccine institutions should be again placed in activity, in the large towns having salaried vaccinators at convenient out-stations. Poor-law unions should encourage vaccination by giving their surgeons 1s. 6d. for each person satisfactorily protected.

Information should be distributed through the towns and villages, from the pulpit and by popular tracts, renewed every two years.

No servant should be hired unlesss he or she can shew marks of having un-

* This is ten below the real number: where the error lies I cannot now discover.

dergone cow-pox or small-pox. The same caution should be observed before admitting any person into a Sunday or national school, into any dock yard, or public establishment of whatever kind. The inmates of houses of industry, of correction, or jails, should be protected also as soon as possible.

Were these measures persevered in for five years, vaccination would assume its rightful position, and the small-pox be all but extirpated.

J. J. Bigsby, M.D.
Senior Physician to the Dispensary.

Newark upon Trent,
Aug. 29, 1839.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'Alembert.

Medical and Physiological Problems; being chiefly researches for correct principles of treatment in disputed points of medical practice. By William Griffin, M.D., and by Daniel Griffin, M.D. Part I. Limerick, 1839. 8vo. pp. 114.

The following problems are discussed in the work before us:—

1. What principles should be kept in view in the treatment of enteritis?

2. How are nervous affections distinguishable from inflammatory?

3. Under what circumstances and to what extent is bleeding proper in diseases of the brain?

4. On what morbid state does the occurrence of coma and sudden death in jaundice depend?

5. Is the law of visible direction, as at present received, a true one?

6. Is laryngismus stridulus, or the crowing disease, a spasmodic or paralytic affection?

These essays are replete with instruction, particularly the first three. The great lesson taught by the discussion of the first problem is the benefit derived from opium in inflammation of the bowels; and the conclusions with which the paper terminates are as follows:—

"General experience testifies, that the strongest purgatives will not operate in the early stages of inflamed bowels unless large depletion by the lancet has been premised, that is, unless the violence of the inflammation has been in some measure subdued; while, on the other hand, as soon as this has been accomplished, they commonly occur spontaneously, or with the assistance of the mildest purgatives.

Notwithstanding the free operation of purgatives at an early stage of enteritis, the inflammation may proceed to a fatal termination, unless arrested by other remedies.

A purgative has been known to occasion inflammation of the bowels, and when inflammation has been subdued by other remedies, it has brought on a recurrence of it.

Inflammation of the bowels may be perfectly subdued without any evacuation at all.

The bowels may even sometimes continue in a confined state for three or four days after the inflammation has subsided, without occasioning injurious distension."

Nervous affections are to be distinguished from inflammatory ones, according to Dr. W. Griffin, by the spinal tenderness which accompanies the former; for "in all acute inflammations of vital organs, I believe that no spinal tenderness will be found, except where it existed previous to the supervention of the attack*, or where the spinal cord itself happens to be the seat of such inflammation. In all neuralgic affections, on the contrary, tenderness of some portion of the spinal column, *usually that corresponding to the affected organ*, may be detected, except in some rare cases, in which, it seems probable, the ganglionic nerves alone are concerned. As these cases must still present a difficulty in their diagnosis, we must rest contented with those general characteristics, which, however vague or liable to lead us into error, are all we have to guide us, and all we have hitherto had to determine our opinion in that large class of neuralgic affections, for the detection of which I have here been offering a new, and I believe less doubtful, sign."

He thinks that these observations will apply with almost equal truth to those nervous affections which resemble chronic diseases, such as pains in the chest, with cough and oppression, leading to apprehensions of phthisis, &c. &c.

* "Some writers on spinal irritation state, that they have found spinal tenderness with inflammation of liver."

In the third essay the author opposes the common plan of treating apoplexy with indiscriminately large bleedings, and is of opinion that they are hurtful in all cerebral cases where there is extensive disease of the brain, by interfering with the process of reparation; or where the disease of the brain has been attended with severe and protracted pain, on account of the exhaustion which follows it. As an illustration of this, he quotes the case of a man, aged 40, who had been suffering intense pain in the head, without advice until the fifth day, when twelve ounces of blood were taken from the temporal artery, his head was shaved, and a kettle of cold water poured over the crown and occiput; but in a few minutes the patient expired. Was death hastened in this instance by the treatment?

We do not quote from these well-written essays so largely as we should otherwise do, on account of their having already appeared in the medical journals, some of them, indeed, in the Medical Gazette. While they are a manifest proof of the professional tact and earnestness of the Drs. Griffin, they may be added to the numerous proofs that the old rigour of the antiphlogistic system is much relaxed—that medicine, in fact, is less bloodthirsty in 1839 than it was in 1825. These Problems will be read with profit by practitioners of every class: we trust that we shall soon be favoured with a second part.

On Granular Degeneration of the Kidnies, and its Connection with Dropsy, Inflammations, and other Diseases. By Robert Christison, M.D. F.R.S.E. President of the Royal College of Physicians of Edinburgh, &c. Edinburgh and London, 1839. 8vo. pp. 288.

This is a treatise on the disease now known throughout Europe by the name of Dr. Bright. It is divided into six sections, besides an appendix of illustrative cases with remarks.

The first section treats of the pathology and morbid appearances of this disease, which is divided into three stages—the incipient, the middle, and the advanced—distinguished by their organic alterations.

In the second section the author considers the symptoms and history. The following passage on the best method of testing albuminous urine will be acceptable to many of our readers.

"The presence of albumen in such cases may be detected by various chemical tests, such as heat, nitric acid, corrosive sublimate, and ferrocyanate of potash; all of which separate a flaky precipitate. But the most convenient and most conclusive are the first two, namely, heat and nitric acid; and as the present observations are intended mainly for practical purposes, it seems unadvisable to press the reader by discussing the chemical merits of any others. At a temperature a little above 160° F. the urine of this disease in its early stage in all circumstances, and generally too in its advanced stages becomes turbid; and complete coagulation of the albumen gradually takes place as the heat rises to ebullition. If there is any deposit of lithic acid or lithate of ammonia, this in the first instance is dissolved, and the urine becomes clear. Muddiness from other causes, more especially from modified mucus, is not thus dissolved, however; and hence, where the muddiness is considerable, it is often well to filter the fluid before testing it. When the temperature has been raised to the boiling point, the urine sometimes forms a gelatinous mass; more frequently it becomes a soft pulp, like thin custard; often too, where the quantity of albumen is less, there are distinct flakes in a supernatant and and separate fluid*. The earlier the

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* The best way of operating is with a tube about a third of an inch in diameter. A spoon, which many use, is a clumsy substitute, which will not show the nicer degrees of coagulability.

I may take this opportunity of observing, that it would singularly promote the future study of the disease were physicians to employ some common nomenclature for the different degrees of coagulability. Important scientific and practical conclusions might then be drawn, which at present are unattainable. I venture to propose the following as well-defined, and in practice convenient. 1. *Gelatinous by heat.* 2. *Very strongly coagulable,* where a precipitate distinctly separates by heat, and yet occupies in twenty-four hours the whole, or nearly the whole, fluid. 3. *Strongly coogulable,* where the precipitate in twenty-four hours occupies half the volume of the fluid. 4. *Moderately coagulable,* where it occupies a fourth of the fluid. 5. *Slightly coagulable,* where it occupies an eighth of the fluid. 6. *Feebly coagulable,* where it occupies less than an eighth of the fluid. 7. *Hazy by heat,* where the urine becomes cloudy, but does not form visible flakes a few seconds after being boiled. In appre-

stage of the disease, the more is the urine loaded with these flakes, and the more does it tend to form a pulpy or gelatinous mass. Nitric acid acts in like manner; but it separates the albumen always in the form of flakes or pulp.

It is advisable to make use always of both tests; and this for several reasons. For first, if the urine is ammoniacal, the action of heat may be prevented even where the proportion of albumen is great. Secondly, heat alone may occasion a flaky precipitate where there is no albumen, owing to the superabundance and consequent separation of earthy phosphates,—a deposition which nitric acid will both prevent and remove. And thirdly, nitric acid alone may occasion a flaky precipitate of lithic acid; which however is resolved by an elevation of temperature, while albumen remains insoluble. In regard to these sources of fallacy, I have to observe in the first place, that the urine should be always tested if possible before it decays and becomes ammoniacal; because I have found that sometimes even nitric acid added in excess did not separate albumen which had been present in large quantity,—a fact which is probably to be ascribed to the albumen having itself undergone more or less decay along with the other principles of the urine. And secondly, as to the fallacy arising from the separation of earthy phosphates by heat which was first fully and ingeniously established by Mr. Rees,—this is a fallacy rather in the advanced stage of the disease than at the early period, with the symptoms of which we are at present occupied; for the separation of flakes of the earthy phosphates is never considerable, and cannot easily be confounded with the great mass of flaky coagulum or pulp occasioned by the presence of albumen.

The third section is on the secondary diseases which are of most frequent occurrence in combination with granular disease of the kidneys; these are, "Dropsy, diarrhœa, pleurisy, and peritonitis, pneumonia, catarrh, dyspepsia, and chronic vomiting, coma with other affections of the head, chronic rheumatism, organic diseases of the heart, and organic diseases of the liver."—(P. 76.)

Of these the first is the most frequent. Dr. Christison states that, in his experience, the proportion of dropsies partly or wholly depending on organic disease of the kidnies, is in Edinburgh three-fourths; and at Strasburgh, according to Professor Forget, it is about one-half. Dyspepsia, however, is almost as frequent; and diarrhœa is very common at Edinburgh, though "comparatively a rare secondary affection in other cities where the habitudes of granular disease of the kidneys have been under the subject of attentive observation."—(P. 89.)

The fourth section discusses the causes of the disorder. Among the chief of these are exposure to cold and wet, and spirit-drinking, especially when practised by persons of a scrofulous constitution. Scarlatina, too, is a predisposing and perhaps even an exciting cause.

The prognosis in granular disease of the kidneys is treated of in the fifth section. It is influenced in a great measure by the probability of the patient's recovery from the secondary diseases above mentioned. Another important rule is that the patient's life depends on the excretion of a sufficient quantity of solid matter in the urine, as is explained in the following passage:—

"The patient's danger is on the whole in proportion to the lowness of the density of the urine; and the reason obviously is, that the lower the density of the urine, the farther has the organic alteration in the structure of the kidney advanced in its progress. This rule, however, applies only where the quantity of the urine is not materially greater than the natural average. On the other hand, it applies with peculiar force where such urine is also defective in quantity. For example, the patient may always be considered in imminent danger where the urine has a density of 1008 or 1010, and its quantity does not exceed twelve ounces daily.

"In reference to this article of the prognosis, it would perhaps be preferable that physicians were to look less to the mere density and quantity of the urine abstractedly, and more to these qualities as constituting a measure of the amount of daily solids excreted. It is the diminution in the daily discharge of solids with the urine that constitutes essentially the unfavourable prognostic. Nature allows of a considerable variety in respect of the discharge of solids in the urine without the health being neces-

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ciating the last degree of impregnation, it is convenient to heat only the upper half of the fluid in the tube.

sarily affected. This may be remarked on studying the condition of the urine both in different individuals and in the same individual at different times. The history of the present disease shows that a very extraordinary diminution from the natural standard may take place for a great length of time, without at all events any immediate or very obvious risk of life. We see patients frequently living for many weeks in the comfortable enjoyment of tolerable health, though the amount of solid excretion by urine is diminished to fully one-third of the natural daily discharge. Seldom, however, does the quantity fall to one-fourth without troublesome secondary disorders forming; and any material reduction under that amount is speedily followed by urgent symptoms, most generally by drowsiness, leading on to stupor and coma."

Section 6th is on the treatment.

General blood-letting is indispensable in the early stage of the majority of cases; counter-irritants to the loins are advisable after general or local depletion has been pushed to the requisite extent. Warm clothing is especially necessary. Diaphoretics are useful, yet not quite so advantageous as Dr. Osborne alleges. Purgatives are commonly necessary, but must be used with caution, lest diarrhœa should be brought on, which is a troublesome secondary affection; yet in dropsy, or when coma threatens, this fear must often be disregarded. Diuretics are rather to be abstained from in the early stage of the disease; but in some of the secondary affections no other remedies are so promptly efficacious. Mercury is useless and dangerous in the primary disease; "yet there seems no sufficient reason for carrying the prohibition of mercury so far as to exclude its use in small doses for aiding the action of other remedies, such as diuretics and cathartics" (p. 141.)

We confess that we think it better in so critical a condition to abstain from so dangerous an ally.

Among the remedies for the secondary diseases we will only mention creosote, strongly recommended by our authors for the chronic vomiting, and acetate of lead for the diarrhœa, when obstinate. The creosote is to be given in the dose of one or two drops, twice, thrice, or oftener, in the 24 hours; and the acetate of lead in the dose of three grains with half a grain or a grain of opium, three, four, or six times a day.

"In urgent cases it is often very useful to unite with this practice the employment of an anodyne suppository of three or four grains of opium once or twice in the twenty-four hours; and sometimes, where all these means failed, I have seen an occasional injection of ten or fifteen grains of acetate of lead in three ounces of water prove serviceable."

The illustrative cases, thirty-one in number, are narrated with Dr. Christison's usual clearness, and, like the rest of the work, are highly instructive. We strongly recommend this book to our readers.

The New York Journal of Medicine and Surgery. Published Quarterly. No. I. July 1839. New York. 8vo. pp. 244.

The first number of the new journal before us contains seven original articles on the following subjects:—

A summary view of the progress of medicine in America, by Dr. Watson; a case of bony tumor arising from the pelvis, by Dr. Rodgers; cases of sensitive tumors of the female urethra, by Dr. Hosack; an essay on cancer of the uterus, by Dr. Swett; observations on morbus coxarius, by Dr. Adams; a case of abstraction of the uterus after delivery, reported by Dr. Griscom; and an account of extirpation of part of a rib for neuralgia, by E. H. Dixon.

The bony tumor, which weighed fourteen pounds, was removed by operation, and the patient, as might have been expected, died twenty-two hours afterwards. The dangers attending and following such an operation were fairly stated to the patient, who deliberately made up his mind to its performance after consultation with his friends; but we think that more should have been done—he ought to have been dissuaded from it.

In the cases of tumors of the female urethra—one occurring in the practice of Dr. Hosack, and the other to Dr. Mott—a cure was effected; in the former instance by dissecting out part of the urethra, and in the latter by removing the meatus urinarius only.

The case which Dr. Griscom calls "abstraction of the uterus after delivery," though unfortunately not quite

unparalleled, is yet very extraordinary. He says—

"On the 7th of April, 1839, at the request of Ira B. Wheeler, Esq., coroner, I examined the body of Mrs. Cozzins, the wife of a respectable mechanic, No. 328, Madison Street, at the time absent from the city. I was assisted in the examination by Dr. S. C. Ellis, in the presence of Drs. Nichols, Lobstein, and Walters. Before the examination we obtained the following history:—Mrs. C. was delivered of a healthy, living child, about one A.M., without any other assistance than her sister and a female friend, both married, and the former a mother. The cord was tied, and cut *secundem artem;* but the placenta was retained beyond the usual time. Three hours having elapsed without its disengagement, the sister went for a physician, and obtained the services of Septimus Hunter, who represented himself to be a physician, but was at the time a clerk in a drug store. Upon his arrival he immediately addressed himself to the task of removing the placenta, the successive stages of which operation will be mentioned presently.

"We were shown, prior to the dissection, a mass of fleshy substance in a wash-bowl, which I at once recognised as a uterus; also, in another vessel, the placenta was shown us, which was entire, but without a vestige of the umbilical cord attached to it. The latter was subsequently discovered in a pail of dirty water.

"On stripping the body, the abdomen was found very sunken. The usual incisions were made, and the following uncommon appearances were presented:—1st. A total absence of the uterus. 2d. The broad ligaments much torn and ragged, and partly deficient. One fallopian tube was absent, but both ovaria remained *in situ*. 3d. The upper extremity of the vagina was open and free, so that the hand introduced from without would pass directly into the cavity of the abdomen, and the intestines could be touched. The intestines were high up, as left by the contracting uterus. 4th. A considerable quantity of extravasated blood was seen on each side near the ovaria, forming spots of ecchymosis beneath the membranes. No effused blood was seen, however, within the abdomen, except this. 5th, a laceration of the vagina, about an inch and a half in length, a short distance from its superior extremity.

"By reverting to the uterus, we found the deficient parts attached to it, viz. one fallopian tube, entire; a portion of the broad ligaments, and about an inch of the upper end of the vagina, which had been divided by an even circle, though manifestly without the aid of any cutting instrument. The external surface of the uterus was about half denuded of its peritoneal coat, leaving the muscular fibres entirely bare. Its internal surface was smooth, and the part where the placenta had been attached very apparent, presenting a slight brown colour. The whole organ was about the size of a child's head at birth. Large quantities of coagula were about the body; the bedding was thoroughly soaked with blood, and a large puddle of it, of a bright red colour, covered the floor beneath the bed.

"The examination of an intelligent female witness before the coroner's jury, developed the following facts:—Immediately after the *quasi* doctor arrived, he took hold of the cord, and making strong traction upon it, he completely inverted the uterus, the placenta still adhering; pulling still harder, he severed the cord from its attachment, and gave it to the witness. He then took hold of the placenta, removed it, and laid it aside, saying there was more to come away still. He then grasped the uterus of the unfortunate patient, and by dint of "excessive" pulling, after about three-quarters of an hour (during which period he relaxed his efforts occasionally to rest and remove his coat, the miserable patient constantly uttering the most piercing and heart-rending cries, such as "you are tearing my heart out," &c.) he succeeded in dragging the uterus from its attachments, and separated it from the body, holding it in his hands, and exhibiting it as a proof of his prowess and skill, saying that "he never had met with such an extraordinary case before." When asked what it was, he replied "either a polypus or a false conception." During this brutal operation, the groans of the suffering woman were at first strong and loud; these, together with the force which the man was seen to use, excited the alarms of the attendants, who urged

him to desist, and allow other medical advice to be called; but with incredible hardihood he persevered, insisting that all was right, that she must endeavour to be patient, and that *he would be responsible for her life*. Towards the close of the performance, her cries became more and more faint, and at length entirely ceased. He thought she was endeavouring to support the pain with patience, and encouraged her in so doing by words. When he turned to look after her, and to feel her pulse, he found that she was dead.

"It is due to the profession to say, that the performer of this horrible tragedy is not, *de jure*, a member of the profession, though he asserts that he has a *recommendation* from three surgeons of the British Navy, of his medical proficiency, and that he has had a large amount (three hundred cases) of obstetric practice. He appears to be about thirty-two or thirty-three years of age, and has been in this country two years."

Three other cases are then mentioned; one occurred at the town of Pulaski, in the State of New York; one is recorded by Bartholinus; and one is to be found in the Medico-Chirurgical Review for April 1836.

The trial of Hunter for this offence was concluded on the 15th of June. He was found guilty of manslaughter in the fourth degree, with a recommendation to mercy, and the sentence was imprisonment for a year in the Penitentiary.

The extirpation of a portion of rib (the tenth of the left side), for neuralgia, proved successful.

These articles are followed by hospital reports, a translation of a French essay on the tubercular disease of the bones, bibliographic notices of twenty-two books, and scientific intelligence. Under the last head we find two cases of lithotrity, by Dr. Alban Goldsmith. In the first, the patient was thirty years of age, and the calculus was composed of uric acid; in the second the patient was sixty, and the calculus was composed of phosphate of lime. Both operations were perfectly successful. On the whole, this journal does credit to the well-directed industry of our brethren of New York.

MEDICAL GAZETTE.

Saturday, September 28, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

A FEW WORDS TO PUPILS.

In the introductory lecture with which it is customary to preface the sessional instruction of a medical school, the teacher may either address his audience generally, on the relations of our profession to society, and the duties which result from them; or, specially, on the best method of learning each branch of the medical art. Perhaps we shall not go wrong, if on the present occasion, with a medical new-year just before us, we take a page or two from each of these supposed lectures, and address our younger readers, both as citizens and practitioners; without, however, confining ourselves entirely to the fresh men of the season.

In these days of extreme, we had almost said of insane, competition, the number of medical schools in London has increased to a lamentable extent; for lamentable it must be to every friend of the profession, when he considers the evils which arise from this hungry rivalry to pupils as well as teachers. To the teacher a lectureship in a minor school is often no more than a decent method of advertising; the profits, if profits they can be called, being insufficient to pay for the cabs which convey him to the scene of mortification. So that those classical or mathematical tutors who placard their services at eighteen-pence an hour, work at a more gainful trade.

Then to the pupil the system is hurtful, from the languid manner in which instruction must too often be doled out,

when the teacher's labour has no reward. Actors do not play with great spirit when there is one pound five in the boxes, and eighteen shillings in the pit; and a lecturer is not supposed to be much cheered, nor his powers of expression greatly quickened, by a class of six*.

In fact, here, as in other cases, extremes meet; and as want of competition leads to the carelessness of monopoly, so a superfluity of it produces the recklessness of despair. In London, the days of monopoly, if they ever existed, have long since passed away, and we have arrived at the era of ticketing, placarding, and underselling. It will not be long, probably, before we see ambulatory boards asking, "Why pay three guineas for a course of midwifery, when Dr. Grubb sells as good for thirty shillings?"

Now, the bearing of all this on the interests of pupils is obvious. If schools were few and far between, and conducted by those only whose rank and standing in the profession gave some guarantee of the soundness of their institution, though there still might be a difference in their merits, yet so scrupulous and jealous a selection would not be necessary; but now that too many schools are merely advertisement offices, we would put pupils on their guard; and as they eschew razors made, not to shave, but to sell, so they should keep clear of lectures compiled, not to instruct, but to puff.

Hence we advise the student, either to repair to a school where the high professional rank of the lecturers is a pledge that they know what they teach; or, if this is too much to ask, let him at least select one where the diligence and respectability of the teachers compensate for want of fame, and where their greater leisure allows them to be tutors as well as lecturers*.

Avoid therefore, we would say, those lecture shops where cheapness and easy certificates are the chief recommendations; where the pupils are more remarkable for drinking, smoking, and *larking*, than for reading; where there are a majority, who, in the words of a medical tutor which we lately quoted, "work more to pass than to learn; who fear an edifice hard by Bridge Street, and dread the approach of Thursday nights."

The coarseness of manner and violence of language prevalent at such places are not to be considered as trifling failings, nor as slight hindrances to the professional success of the student. He is to recollect that the office of the practitioner is not merely to solve medical problems on paper, but to diminish pain, and pluck a few units from the vast sum of human misery, by every possible method. The raw beginner thinks that his office is only to administer drugs; but unless he remains a beginner for ever, he soon learns how much may also be done by advice, concerning dress, diet, lodging, exercise, and the other details of hygiene.

But even this is not all; indeed, if the medical man has no moral influence with his patients—no power of persuasion, he is at best but half a practitioner. Baglivi observes, that even the power of drugs is increased when they are prescribed by a man of celebrity; much more, then, will all the other appliances of the healing art gain in force when in the hands of moral worth. The vulgar practitioner is naturally taken by his patient to be a mere prescribing machine,

* Such classes seem to have been occasionally known even in former times. Menage was acquainted with a professor who, to make up an audience, was obliged to beg his friends to be present. On asking one of them why he had stayed away, he replied, that he was afraid of breaking in upon his solitude.

* If several assistant physicians were appointed at each of our hospitals, whose office should be to teach physic to the pupils, by taking them to the homes of out-patients, while the more advanced students were entrusted with cases, under the supervision of the physicians, this would be the greatest possible improvement in medical education. Such an institution is called in Germany a *polyclinik*.

and not an adviser warranted to interfere with his modes of life. In nervous diseases, whether they require firmness or soothing on the part of the physician, this influence is immediately seen; but there is scarcely any case where it is completely null. The biographer of Dr. Denman says of her father, "such was the tenderness and sympathy of his manner, and his devoted attention to the claims of humanity, that many a sick bed was soothed and comforted by his kindness and conversation, long after it was known that no advantage could be expected from his medical assistance*."

In truth, if the office of a medical practitioner is to relieve pain, how can he expect to succeed when he inflicts it by voice, gesture, and conversation? It would be a miracle if any one had ever got on, even in days of less competition, against such disadvantages. Most of the alleged instances of successful bearishness are deceptive; for the obnoxious manner had been concealed or mitigated until reputation was established, and was then brought out in high relief by the intoxication of prosperity.

Every profession, it must be confessed, has its own defects; not so far its own, indeed, as to be its peculiar heritage, but so far as to be commoner in that one than in others. Each mode of employing the mind gives it a twist, as each manual trade is attended by its physical defects. The lawyer is often found to think more of law than of justice; the long pursuit of his profession habituates him to calculate rather the value of his cause *in banco Reginæ*, than its real weight before the tribunal of Astræa. "Our client has neither law nor equity in his favour," said an advocate to the attorney, "but he may take the chance of a jury."

Now, if we may venture to touch on a matter of such extreme delicacy, and hint a fault which naturally clings to our profession, we would say that the practice of physic tends to produce a less acute sympathy with suffering than is to be found among those to whom the sight of pain is less familiar. Perhaps this maxim may be thought to go too far, and we readily grant that it must be taken with great allowances. The medical practitioner who does all that skill and kindness can suggest to relieve his patient, cannot be said to be deficient in real sympathy, though he no longer has that instinctive thrill with which the inexperienced portion of mankind regard severe suffering; indeed, had he too much of this fellow-feeling, it would cloud his intellect, and make his opinion on the case less valuable.

The practitioner mentioned by Cooke, in his work on Nervous Diseases, who became jaundiced whenever he had a dangerous case under his care, might be the most amiable of men, but could hardly be the most clear-headed of physicians.

But it is not, of course, to this scientific equanimity that we refer, for the warning of pupils; for this is to be cultivated: it is a studied and criminal indifference which is to be shunned.

The candid, however, will confess that this voluntary apathy is met with oftener than we could wish, and oftener than we might expect. When physic is adopted as a profession by one who has neither moral refinement, nor that polished deportment which often serves as a varnished substitute for it, it must be allowed that the callousness produced in the culprit is sometimes frightful. As drunkenness is said not to create new faults in its subject, but merely to bring out those which self-restraint had prudently concealed, so it may happen that an ill-chosen pursuit will educe failings

* Memoir of Dr, Denman, in the sixth edition of the Introduction to the Practice of Midwifery.

that under happier circumstances might have slept for ever. For intoxication itself, though said to be merely the exaggerator of existing vices, and not the creator of new ones, still, like a magnifying mirror or a microscope, proclaims many that would otherwise have escaped the most acute observer. Thus the tone of familiarity with patients may degenerate into an abrupt coarseness; or the license on sexual subjects, warranted to a certain extent by professional circumstances, may be supposed, as we have seen in more than one shameless example, to authorize the publication of books which deserve to be prosecuted by the Society for the Suppression of Vice.

The judicious student will not misunderstand us. We do not desire to see in him the high-wrought sympathy of a woman, nor even that degree of it which we might wish in one unaccustomed to the objects which daily meet his view; but we request him not to exaggerate his indifference, not to give the details of the dissecting-room at the dinner table, nor to triumph too much when he has got over the innate feeling which makes the rest of mankind contemplate with horror the ravages of disease, and the contortions of pain. We can assure him that all this is as contrary to the tone of good society as it is to good feeling. If a gentleman indulges in the exercise of rowing, he does not continually poke his hands in people's faces to show how hardened they are.

REMOVAL OF AN ENORMOUS FIBROUS TUMOR OF THE UTERUS.

By M. Scoutetten.

Madame R., a lady of easy circumstances, at Metz, is forty years of age, strong, and of good constitution; she has had several children, and her labours have always been unattended by any bad effect. In 1834 her catamenia were disturbed; afterwards abundant but easily repressed hæmorrhages supervened, without any evident cause; and they were accompanied with sensibility in the epigastrium, and of derangement in the digestive functions.

Notwithstanding the evident progress of the disease, and the increasing swelling of the abdomen, the patient was but little distressed, when suddenly, in April 1837, she was attacked with a considerable hæmorrhage, which she attributed to fatigue. She went to bed, and a few instants after she felt a shock, followed by pains like those of labour, which increased and succeeded each other rapidly. An accoucheur was called, who discovered by the touch a very long tumor engaged in the neck of the uterus. The patient remained two days in a state of horrible suffering; it was hoped that nature might be able alone to relieve her. The seriousness of the disease and the imminence of the danger suggested a consultation, and I was called in. I found, by an attentive examination, that the tumor was hard, resisting, and smooth on its surface, and had the principal external characters of a fibrous tumor.

The patient was placed on the edge of a bed, her legs and thighs being separated and fixed, and I introduced my fingers into the vagina in the hope that they might be sufficient to draw the tumor out, but I soon found that this was impossible. I then took strong toothed forceps; they tore the surface of the tumor, but could not move it. I tried to pass a thread round the tumor with a *serre-nœud*, but the ligature slipped, and fell off directly. I then introduced a long and narrow forceps cautiously into the cavity of the uterus, and with them the tumor was seized and slowly drawn out; I found that it was fixed by a large surface to the interior of the uterus, and that that organ was inverted. Was I now to divide the attachment with the bistoury? I should so expose myself to a hæmorrhage that might be fatal. Was it not more prudent to confine myself to the application of a ligature without endeavouring for the present to return the uterus? I knew that I might thus excite inflammation of that organ and peritonitis; but I preferred to expose myself to combat an inflammation rather than a hæmorrhage that might be at once destructive.

I therefore put a strong but fine ligature on the tumor at its attachment; it was drawn tight and the tumor almost immediately became brown, which I attributed to the arrest of the blood in the numerous vessels that traversed it. I sur-

rounded it with a compress covered with cerate, and placed the whole between the thighs of the patient.

During the first day the abdomen was tense; but only slightly painful, the pulse scarcely febrile. I ordered only a friction of oil on the abdomen and the application of a cataplasm. On the next day, the patient suffered a little more, but there was no serious symptom. On the third the weight of the tumor had lengthened the cellular bands which united it to the uterus nearly half an inch, and it was now easy to see that they might without inconvenience be divided with the knife: I did so at once: the tumor was removed, the uterus gently pushed back, and all the bad symptoms disappeared.

Twelve days after, the patient was so far recovered that she could go out and walk: and since that time her health has never been a moment deranged. The tumor weighed 35 ounces; it was ovoid; its great circumference measured 16⅓ inches, its middle circumference 12 inches and five lines; its tissue was composed of concentric fibres.—*Gazette Médicale*, Août 24, 1839.

HABITUAL DICHARGES.

I HAVE known many persons, with whom the least diminution of an habitual discharge was presently followed by feelings of impaired health, and occasionally by actual mischief. The following case may not be uninteresting, as exhibiting this alternation in a remarkable degree. It is given in a condensed form, from notes made during the attendance.

Lady R····, at the age of 79, had bronchitis in 1829, and was so ill that her recovery was despaired of. She had cold extremities, intermitting pulse, great dyspnœa, and difficulty of expectoration. Wine given freely, and the appearance of an eruption on the legs, saved her for the time. The expectoration which then occurred became habitual, and the eruption, which was generally of a pustular character, continued till the period of her death in 1831.

On one or two occasions the discharge from her legs diminished, and then the cough became hard, and the breathing frequent and oppressed; but when the discharge from the limbs reappeared, the bronchial affection subsided to its ordinary state. She was seized at length in 1838 by the catarrhal influenza prevalent at the time. It began with rigors and such a degree of collapse as nearly annihilated her. The legs literally "dried up" at once, the discharge ceased, and they became cold and livid. The usual symptoms of the influenza set in with great violence. Under the most persevering attention of her friends, the heat of the limbs was restored, and the stage of mucous secretion in the bronchial membrane was attained; but she sank, literally from inability to expectorate.

I have at this moment under observation an elderly gentleman, who has succeeded, for the second time in twelve months, in nearly healing two ulcers, one on each inner ankle, connected with a varicose enlargement of the veins, of long standing, and he is already beginning to complain of suffocation on going up stairs, annoying cough, and occasional vertigo, during which he is frequently blind for two or three seconds. — *Mr. Ferrall, in Dublin Journal.*

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Sept. 26, 1839.

Mr. Henry Brown, Lewisham.—Thomas Sankey Cooper, Canterbury.—Thomas Blackledge Garstang, Settle.—Thomas Holyoake, Salop.—Charles Redfern, Barton.—John Cox, Oxford.—John Rose, Oxford.—Joseph Schofield, Saddleworth.—William Egginton Thompson, Worcester.—John Harmar Smith, Sheffield.—Christopher Leech, Settle.—Alfred Homfray, Clifton.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Sept.* 24, 1839.

Abscess	2	Gout	1
Age and Debility	28	Hooping Cough	3
Apoplexy	4	Inflammation	14
Asthma	1	Brain	5
Childbirth	2	Lungs and Pleura	9
Consumption	36	Liver, diseased	1
Convulsions	30	Measles	7
Dentition	3	Mortification	1
Dropsy	5	Small-pox	1
Dropsy in the Brain	5	Thrush	1
Dropsy in the Chest	1	Unknown Causes	57
Erysipelas	2		
Fever	13	Casualties	3
Fever, Scarlet	11		

Increase of Burials, as compared with the preceding week . . . 27

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Sept.	THERMOMETER.	BAROMETER.
Thursday . 19	from 48 to 59	29·47 to 29·49
Friday . . 20	47 61	29·52 29·55
Saturday . 21	49 58	29 51 29·53
Sunday . . 22	40 58	29·52 29·58
Monday . . 23	37 59	29·66 29·79
Tuesday . . 24	40 58	29·80 29·75
Wednesday 25	53 67	29·70 29·75

Prevailing wind, S.W.

Except the 23d and 25th, generally cloudy, with frequent and heavy showers of rain.

A lunar rainbow about 11 o'clock on the night of the 19th.

Rain fallen, 95 of an inch.

CHARLES HENRY ADAMS.

MONTHLY LIST

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, Sept. 24, 1839.)

	Price.			Duty.		Duty Paid.	
						In 1839 to last week	Same time last year
	£ s. d.	£ s. d.		s.	d.		
Aloes, Barbadoes, D.P. c	15 0 0	to 30 0 0	B P. lb	0	2	94,281	75,750
Hepatic (dry) BD..... c	5 0 0	10 0 0	F. lb	0	8		
Cape, BD. c	2 5 0	2 10 0					
Anise, Oil of, German, D.P....lb	0 9 6	0 9 6	F. lb	1	4	——	133
E. I. .....lb	0 5 0	0 5 6	E. I.	1	4	1,481	713
Asafœtida, B.D. c	1 10 0	3 10 0	c	6	0	20	43
Balsam, Canada, D.P. .....lb	0 1 0	0 1 1	lb	0	1	10,728	6,050
Copaiba, BD.....lb	0 2 6	——	c	4	0	432	123
Peru, BD. .....lb	0 4 0	0 4 3	lb	1	0	595	1,798
Benzoin (best) BD..... c	25 0 0	50 0 0	c	4	0	99	77
Camphor, unrefined, BD..... c	10 0 0	11 0 0	c	1	0	375	406
Cantharides, D.P. .....lb	0 3 6	0 4 0	lb	1	0	12,095	11,111
Caraway, Oil of, D.P. .....lb	0 8 0	0 8 6	lb	4	0	810	580
Cascarilla or Eleutheria Bark, D.F.C.	3 10 0	——	lb	0	1	1,772	4,579
Cassia, Oil of, BD.....lb	0 7 0	——	lb	1	4	2,226	3,423
Castor Oil, East India, BD.....lb	0 0 4	0 0 10	c	1	3	5,187	4,560
West I. (bottle) D.P. 1½lb	——	——					
Castoreum, American .....lb	0 17 0	0 18 0	lb	0	6	491	782
D.P. Hudson's Bay .....lb	0 18 0	1 0 0					
Russian.....lb	none						
Catechu, BD. Pale c	1 3 6	——	c	1	0	32,613	26,567
Dark	1 7 0	——					
Cinchona Bark, Pale (Crown)....lb	0 2 0	0 3 6	lb	0	1	33,188	86,966
BD. Red .....lb	0 2 0	0 4 0					
Yellow .....lb	0 3 6	0 3 8					
Colocynth, Turkey .....lb	0 1 6	0 2 9	lb	0	2	7,743	11,271
D.P. Mogadore .....lb	0 1 0	——					
Calumba Root, BD. c	0 12 0	1 15 0	lb	0	2	8,597	17,939
Cubebs, BD. c	2 10 0	——	lb	0	6	32,404	21,322
Gamboge, BD. c	5 0 0	15 0 0	c	4	0	43	78
Gentian, D.P. c	1 6 0	1 8 0	c	4	0	421	462
Guaiacum, D.P.....lb	0 1 0	0 3 0	c	6	2	15	39
Gum Arabic, Turkey, fine, D.P... c	11 0 0	——					
Do. seconds, D.P. .. c	7 10 0	——	c	6	0	5,912	5,416
Barbary, brown, BD. c	1 17 0	1 18 0					
Do. white, D.P..... c	5 10 0	——					
E. I. fine yellow, BD. c	2 5 0	2 14 0	c	6	0	5,590	4,360
Do. dark brown, B.D. c	1 15 0	2 5 0					
—— Senegal garblings, D.P. c	0 3 6	——	c	6	0	15,816	14,920
—— Tragacanth, D.P. c	0 8 0	0 12 0	c	6	0	70	411
Iceland Moss (Lichen), D.P. ....lb	0 0 2½	0 0 3	lb	0	1	15,933	5,179
Ipecacuanha Root, B.D. .....lb	0 1 9	0 2 0	lb	1	0	5,563	10,782
Jalap, BD. .....lb	0 2 0	——	lb	0	6	30,883	30,061
Manna, flaky, BD. .....lb	0 3 0	0 3 6	lb	0	3	9,388	4,781
Sicilian, BD. .....lb	0 1 7	——					
Musk, China, BD. .....oz	1 0 0	2 0 0	oz	6	0	1,373	1,665
Myrrh, East India, BD. c	5 0 0	14 0 0	c	6	0	189	117
Turkey, BD..... c	2 0 0	11 10 0					
Nux Vomica, BD.....lb	0 8 0	0 9 0	lb	2	6	478	740
Opium, Turkey, BD. .....lb	0 15 0	——	lb	1	0	25,104	20,313
Peppermint, Oil of, F. BD.....lb	0 17 0	——	lb	4	0	1,711	637
Quicksilver, BD. .....lb	0 3 10	——	lb	0	1	231,295	276,789
Rhubarb, East India, BD.....lb	0 2 6	0 4 0	lb	1	0	20,703	24,388
Dutch, trimmed, D.P. lb	0 3 6	0 5 0	F. lb	1	0	2,281	5,624
Russian, BD. .....lb	0 12 0	——					
Saffron, French, BD. .....lb	0 16 0	0 16 6	lb	1	0	3,134	3,662
Spanish .....lb	0 16 0	0 17 6					
Sarsaparilla, Honduras, BD.....lb	0 1 0	0 1 9	lb	0	6	85,189	95,334
Lisbon, BD. .....lb	0 2 0	——					
Scammony, Smyrna, D.P.....lb	——	——	lb	2	6	6,436	5,634
Aleppo .....lb	0 18 0	1 0 0					
Senna, East India, BD. .....lb	0 0 3	0 0 4	E.I. lb	0	6	94,138	56,861
Alexandria, D.P.....lb	0 1 6	0 1 8					
Smyrna, D.P. .....lb	0 1 0	0 1 3	Other sorts	0	6	55,079	45,845
Tripoli, D.P. .....lb	0 1 0	0 1 3					

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THE CROONIAN LECTURES

For 1839.

By John Clendinning, A.M. & M.D.
Of Oxford, &c.

As delivered at the Royal College of Physicians, May 15, 17, 22.

ON THE DIAGNOSIS OF DISEASE OF THE HEART.

Extent and Momentum of Impulse—Varieties of Cardiac Sound with Healthy Valves—Diffusion of the Sounds, normal and anormal—Hydrothorax, Empyema, and other cases.

Mechanical signs—Extent of Impulse.—The next points for observation are 1. the extent of the heart's action as measured by sensible impulse. 2. The development of the heart, as evinced by the momentum of that impulse. 3. The area over which the systolic and diastolic sounds can be heard.

The first observer, I conceive, that gave the stamp of authority to the method of diagnosticating enlargement of the heart by the superficial extent of the heart's sensible throb, was Senac. Since his time it has been verified by every subsequent observer, and no doubt at all can be entertained of its value in favourable cases. The hand being placed transversely over the cardiac region, with the points of the fingers beyond the nipple, and the palm pressing on the cartilages, or *vice versa*, the throb of the heart is readily felt and easily measured lineally, provided only the action of the organ be sufficiently vigorous, and provided also there be no considerable mass of intervening lung suspended like a cushion between the impinging body and the pectoral parietes.

But the former condition is often wanting. The heart's action is not unfrequently, whether transitorily or permanently, languid, and then the sensation of locomotion attributable to the heart is difficultly distinguishable from other sensations communicated by the parietes of a cavity subjected at all times to several distinct sources of vibratory motion: viz. 1, to the cardiac impulse; 2. the action of the respiratory muscles, and 3, the various reverberations of the breath and voice. Under such circumstances recourse must be had to other signs. This, however, may be noted, that in some cases the difficulty may be at once surmounted by making the patient suspend his breath for a short time, during which, it will often, if the heart's action be not very feeble, be possible to measure the area over which that action is sensible. There is also another way of making this manœuvre available, viz.: by exciting the heart by some sufficient voluntary effort, or by some stimulant administered for the purpose, or else by making the examination immediately after food or cordial medicine.

But in a large proportion of cases the action of the heart will usually be found more or less energetic, and in those cases we have double means of diagnosis,—1st, the extent over which the systole can be felt, and 2d, the momentum of that systole. With regard to the extent, it varies much, according to the size of the heart and the energy of its systole; according also to the state of the pericardium, whether adherent, or dropsical, or otherwise; according also to the condition of the lungs, whether spongy or solid, emphysematous or ædematous, expansible or compressed. But the points most important to explore seem to be, 1, over the base on the cartilages; 2, over the apex under the mamma; 3, in the epigastrium; and 4, over the middle or upper pulmonary lobe, somewhere in a vertical line with the middle of the clavicle.

By observing the distances between the extreme points at which the throb or systolic impulse is perceptible, the develop-

ment is easily measured with sufficient practical accuracy. Owing, however, to one or other of the sources of difficulty above referred to, and especially to emphysema, or to hydro-pericardium, or to œdematous condensation, or to consolidation, of the lung, I have myself often been unable to obtain satisfactory indications of enlargement by this method. For even though the systole have been pretty vigorous, still its impulse, when impeded by pericardial adhesion, or by hydro-pericardium, has been slight and easily missed or doubted of; and when the heart has been separated from the pectoral parietes by a diseased lung, it has not seldom been found difficult by this means to estimate its condition. Again, if the lung have been too porous, as in emphysema, the impulse has been absorbed altogether, or but very partially transmitted; and if the lung have been too solid the same impulse has been transmitted readily, and diffused widely, and, I think, occasionally much beyond what it could possibly be, had the pulmonary substance been normal. In such circumstances, and the subject being in a state of perfect repose, I have been sensible of impulse on the posterior surface of the chest, a point to which it could not easily reach under less favourable pulmonary conditions. The diffusion of the heart's impulse, therefore, as a diagnostic mark of morbus cordis, is liable, like other signs, to important sources of fallacy, which, though usually not ultimately sufficient to baffle the practised hand, present not unfrequently formidable obstacles, especially to the junior practitioner. The following are the most important embarrassing combinations I have myself met with—1. the difficulties occasionally and not very rarely arising from the coincidence of pulmonary condensation, including diminished resonance, with increased conducting power in the lung, and hepatic enlargement with hypertrophy of the heart, have often proved to myself very embarrasing.

2. The co-existence, not by any means very rare, of extreme emphysema of the edges of the lung in the cardiac region, with disease of the heart, has likewise occasionally conspired with hepatic enlargement, or distention and high elevation under the ribs, of the stomach, to render for a time, accurate and certain diagnosis by the ear wholly impracticable. Were the stomach the only source of difficulty, carminatives, &c., no doubt might be used to expel flatus, or the resonant cavity might be diminished to any extent by drinking, or a meal; but the pulmonary and hepatic morbid conditions must prove permanent obstacles.

Momentum of impulse.—With respect to the momentum of the systolic impulse, there is little observation required. When the impulse is well marked, there can be little room for doubt as to whether the impinging body be massive or small, light or heavy. It is a matter of direct inference from simple sensation, and the conclusion follows directly after experiment, whether affirmative or negative, of disease. A vigorously acting heart of moderate size may and will give a considerable impulse, considerable, I mean, for its weight and quantity of matter, but nothing that can be mistaken by competent observers for the stroke of a heart in a condition of sthenic hypertrophy. This sign, therefore, being simple and mechanical, is not subject to material error. It is, however, frequently insufficient in cardiac diagnosis; in those cases, namely, where the systolic action is feeble or at least insufficient to overcome such impediments, as emphysema, or other pulmonic complications above alluded to. On this head there is but this further observation to offer, viz. that the force of the heart's impulse is a diagnostic sign only when it yields *positive* results. When the result is *negative*, no inference can be drawn, opposed to the supposition of cardial hypertrophy and enlargement, for reasons which will be obvious when we call to mind the frequent occurrence of habitual sluggishness of action in the absence of unusual excitement, and even of absolute debility, in the parietes of the thickened and enlarged heart.

We come now to the consideration of the sounds of the systole and diastole, so far as they throw any light on hypertrophy of the heart.

Preliminary explanation.—Before entering on the consideration of the diagnostic value of the principal modifications undergone in morbus cordis by the systolic and diastolic sounds, it is necessary to remind my hearers very briefly of the mechansim of those sounds. Since the publication of those researches of Laennec which have led the way to recent minute investigations of that mechanism, a complete revolution has taken place in the views of pathologists respecting the cardiac sounds, nor has a general agreement been yet arrived at on many points of the subject. But already certain leading facts are on all hands admitted, and certain others are, though not yet generally admitted, still I conceive so certain, that it is necessary for my purpose in more respects than one to devote a few words to them.

It is generally admitted, 1st, that there are two normal sounds attending the heart's action; the one coinciding with the systole, the other with the diastole. 2d, that those sounds when normal are easily distinguished by the gravity and

protraction of the one, and its synchronism with the arterial pulse and cardiac impulse; and the shortness and sharpness, or abruptness and clearness, of the other, and by its synchronism with the subsidence of the heart, and the interval between its strokes upon the parietes of the chest. 3d, that each sound is produced by changes of physical condition in the cardiac fluids and solids, either conjointly or severally considered, changes coincident with the systolic and diastolic efforts respectively, and necessarily attending upon and involved in the heart's action. 4th, that the ventricles are the principal active or vital agents in the production of both sounds. 5th, it follows from the experiments of Dr. Hope, and the more recent and decisive experiments of my friend Dr. C. J. B. Williams, and of the Committees of the British Association in Dublin and London, that the diastolic or second sound is, in all probability, simple, and dependent on the sudden tension and closure of the arterial valves, which repel the blood recoiling back from the aorta during the dilatation and repose of the ventricles: and that the first or systolic sound is probably complex, depending principally on the muscular sound attending the contraction of the ventricles, and partly also on the valvular action in the auriculo-ventricular or interior orifices *.

6th. From the same experiments it follows that the auricular action is unattended by any sound depending on such action.

Assuming, then, those positions as data, I shall consider the subject of the sounds of the heart under three heads, viz.:—

1. The characters of the sounds in themselves. 2. The diffusion of them. 3. Their purity; *i. e.* their freedom from, or intermixture with other cardiac sounds, and their distinctness, or else their absorbed or masked state, when modified, owing to the coexistence of other and louder abnormal heart sounds.

The third series of observations I shall here omit, as they will be included in what I shall have to say under the head *valvular disease*.

To proceed, then, with the first and second heads.

Varieties of cardiac sound with sound valves.—The principal varieties that I have observed in the characters of the first sound are, 1st, abnormal obtuseness and duration 2d. abnormal loudness and clearness.

The former character of *systolic* sound is usually combined with apparent slowness of contraction and a tardily completed systole—thence the sound is more than normally prolonged; and the gravity or obtuseness of its tone is generally referred, and I believe correctly, to the massiveness of the walls in such cases usually observed post-mortem. With respect to this variety, I think there can be no reasonable doubt that a systolic sound at once abnormally obtuse or grave, and prolonged, indicates with something approaching to absolute certainty, cardiac hypertrophy, and most probably also cardiac enlargement.

The second variety of systolic sound is the abnormally short, shrill, and clear sound, approaching the normal character of the second or diastolic sound. This is a variety of the first sound of no rare occurrence. I imagine there are few advanced cases of morbus cordis, few at least that have reached the asthenic stage, that supervenes sooner or later in almost all cardiacs not incidentally cut off early in life, in which systolic sounds of this kind may not occasionally if not constantly be observed. This character seems to me to attend very commonly every sudden excitement, in subjects with hearts grown inapt for vigorous concentric action, owing to abnormal fleshiness and volume: that I have observed it numberless times, in hearts proved post-mortem to be much and even enormously hypertrophied, I unhesitatingly affirm. It does not very well accord, indeed, I believe, with the statements of authors, that it should be so; for the variety of systolic sound I am at present considering is the same that I find in books of authority, attributed to a state of heart development nearly opposite to that in which I have so frequently observed it; to a state, namely, of enlargement with attenuation, or relative atrophy, of which condition the sort of sound in question has been held to be a diagnostic mark.

With much and sincere respect for preceding writers, I must say, however, that I doubt whether the semeiology of passive aneurism is much better than an ingenious speculation, founded on a few misinterpreted facts. Omitting special notice of the speculative part of the subject, the facts misunderstood seem to by these:—The hypertrophous heart under various circumstances, contracts quickly, but partially, and abruptly relaxes into diastole again; and in this way gives an abnormally short, sharply defined, clear first sound. This seems the probable fact when the first sound is short, the second relatively long, and the interval between the sounds likewise pretty long.

* The original experiments and observations by which this element of the systolic sound has been substantiated to the satisfaction of the London Committee of the British Association, were made in the earlier part of 1838, and anteriorly, and remain as yet unpublished: they confirm the views of Professor Carswell, Dr. Billing, M. Rouanet, Professor Bouillaud, &c. as to the acoustic results of valvular action, and coincide very nearly with the careful and able statements of Dr. Hope, which were being published, I perceive, just about the period of the preparation for delivery of these Lectures; viz. May, 1839.

But it also happens that a prolonged and complete systole may give but a short sound. This may occur in cases of considerable cardiac asthenia, in which the commencement of the systole may be audible in the form of a short clear sound, partly valvular, partly muscular, although the latter part of the systole, succeeding the moment of valvular tension, may, owing to sluggishness or feebleness of contraction, be inaudible through lung, muscle, bone, skin, hydro-pericardium, and other impediments, whether natural or adventitious, interposed between the ear and the heart under examination. In either of these ways it is obvious that a heart more muscular than normal, may, notwithstanding, manifest its vitality by sounds more obscure and feeble than normal. The hypertrophous heart may therefore easily pass for attenuated with the speculative cardiologist, who, while pursuing subtle reasons, which are commonly but anodynes of aching curiosity, or as it were, a sort of intellectual placebos, is not unlikely often to overlook gross and palpable phenomena.

Such seems to me, according to my present information, the proper interpretation of those matters of fact on which has been constructed that portion of the fabric of cardiac semeiology that relates to passive aneurism. It follows, therefore, according to my views, that a short, clear, systolic sound, indicates not so much any particular anatomical state of the heart, such as atrophy or expansion, or the reverse, but rather a defective dynamic condition; that it indicates, in a word, not *attenuation* of the parietes, but merely *debility*.

Diastolic Sound.—The abnormal varieties of the diastolic sound which are developed independently of valvular lesion, are less important, very much, than those of the first sound. They occur frequently enough, but have not the ascertained constancy of connexion with any particular morbid organic conditions, that would be necessary to give them diagnostic value. The variety most commonly met with is a prolonged and voluminous sound, approaching in character to the first sound; but the cause or causes of this modification I have not ascertained. I am not aware that it is wholly incompatible with health.

Abnormal rhythm. — There is another class of modifications to which the systolic sound more particularly is liable, not above referred to, viz. what I may call intermittence. By this I mean an apparent abnormal frequency of recurrence, owing to the systolic act being subdivided into two or more distinct efforts, between which are interposed moments of relaxation or repose. This double or triple throb has repeatedly fallen under my observation. I have had also opportunities of examining, post-mortem, cases in which this had been observed during life. The best marked case of the class I recollect, was that of a shoe-maker, who had become a subject of morbus cordis in consequence of a blow of a hammer on the cardiac region. He was twice under my care in the St Marylebone Infirmary, and recovered pretty satisfactorily of his first complaints, and was discharged free from pectoral uneasiness, with a heart considerably enlarged, but yet performing its duty regularly and well. Some months after, however, the next winter I think, he returned with, at first, dropsical symptoms, including much pectoral distress. His second course of treatment was protracted, and was brought to a close by the supervention of pericarditic symptoms, during which was noticed the intermitting systole, giving sometimes double, often triple sounds, and occasioned, I conceive, by rapid remissions and resumptions of the tense condition that characterizes the cardiac contractions. In the post-mortem investigation of this case we found the heart and pericardium adherent to such an extent as might readily be conceived to be very embarrassing to the cardiac functions.

But though in this case the anatomical conditions might suggest an obvious explanation, founded on a basis in some measure mechanical, yet I have seen similar systolic irregularities, too often, where no adhesions existed, nor other equivalent structural impediment, to be disposed to refer the reduplication of sounds in that case solely to the morbid changes found post-mortem, and, indeed, expected during life. On the whole, the impression on my mind is, that the essential element in such irregular actions is cardiac debility, and inadequacy of the contractile energies of the organ to the propulsive efforts required of it—a state of debility I have never seen wholly unconnected in morbus cordis with muscular hypertrophy. And this conclusion is confirmed by the fact, that the acoustic phenomena under consideration have been repeatedly observed, in cases of morbus cordis with extreme valvular contraction and induration, and under circumstances, therefore, in which complete evacuation, by a single systolic effort of a ventricle capable of holding even a few drachms, was mechanically impracticable; circumstances, also, in which the existence of relative debility or muscular inadequacy of power was placed beyond a doubt.

With respect to the diastolic sounds, I do not recollect any well-marked case in which reduplication of them, in any way like the preceding, referable to the first sound, has ever fallen under my no-

tice; and it seems probable that such reduplication can only occur in rare and complicated combinations of things. The second sound, it must be recollected, is immediately produced by impulses much more constant and regular than muscular contraction — viz. 1. the reaction on its contents, after the systole, of the distended and elastic aorta, which is the cause implied or expressed by the Committees of the British Association, and by several distinguished private experimentalists, British and foreign; and 2. probably also partly, if not principally, by an expansive effort included in the general diastole, and extending to the arterial openings, so as to distend them rapidly, and give to the valvular laminæ that *sudden tension* that immediately produces the diastolic sound. Now, of those agencies the former is wholly mechanical, being but the reaction of an elastic tube forcibly distended; and it is, therefore, liable to no such variations as are, strictly speaking, vital agencies, such as muscular contraction. And the latter, or cardiac expansive effort, is but partly, I should say, a vital agency—viz. so far as the diastole can be considered as other and more than mere relaxation—as other than the effect of that tendency to repose which all bodies are influenced by. This latter force—I mean the forces that excite the second sound, are therefore, it is probable, comparatively little subject to spontaneous alterations in their mode or power of action. Whether, however, the reasons just sketched be correctly stated or not, there can, I think, be no doubt of the comparative insignificance at present of any modifications observed in the character of the diastolic sounds. It is therefore useless to dwell on them.

The next topic for our consideration is the diffusion of the cardiac sounds over the pectoral parietes.

Diffusion of the cardiac sounds.—It seems, *à priori*, probable that an enlarged heart, coming into contact mediate or immediate with an increased number of points on the walls of the chest, would diffuse more widely its sounds, and be on the surface perceptible by the ear, both in systole and diastole, over a greater area than normal: and practice to some extent confirms the presumption. Were, therefore, the cardiac action at all times sufficiently vigorous, and were the heart always in the same local relation to the pectoral walls, as to distance, position, &c.; and, finally, were there no intervening bodies of variable bulk and density;—on the supposition that in none of the quarters just alluded to did sources of fallacy exist, it would seem that the diagnosis of morbus cordis, so far as deducible from the width and manner of diffusion of the heart's sounds, were abundantly easy and simple. But the facility is more apparent than real; and there is no one cardiac symptom, perhaps, more fallacious and difficult rightly to estimate than this. For the heart, though large, may be prevented from diffusing widely its sounds by obstacles within the pericardium or without; and the heart, though normal, may, through exterior favouring circumstances, be enabled to make itself audible at nearly the remotest corners of the thorax. The impediments that I have noticed within the pericardium, are—

1st of all, of course, too weak action in systole and diastole.

2. Adhesion to the pericardium to a great extent.

3. Copious hydro-pericardium.

And the impediments without the pericardium are more numerous and various still. They may be ranged under the following four heads—viz.

1. Increased density in the lungs.
2. Diminished density in the lungs.
3. Liquid effusion in the thorax.
4. The pulmonary abnormal sounds.

Before entering, however, upon the practical consideration of the obstacles to an abnormally extensive audibility of the heart's sounds, I must premise a few sentences relative to the normal extent of their diffusion over the pectoral walls.

Normal extent of diffusion of the cardiac sounds.—At different periods of life, there are great differences in the dimensions of the pectoral cavity, and in the development and density of the lungs. In the child, the chest is, I conceive, relatively to the cranium and abdomen, more shallow and less capacious than in the grown man; and the pulmonary substance is at the same time, as by the test of specific weight I have satisfied myself, much more dense in the former than in the latter. Then, with regard to sexual modification, it may be said that the male exceeds the female, in relative pectoral dimensions, considerably (on account, no doubt, of the great development of the pelvis in the female after puberty), and very much more relatively to the abdominal cavity, than the adult exceeds the child. Thus, then, the general volume of the lungs, and the thickness of pulmonary texture, that must be traversed by the cardiac sounds in various directions, in order to reach the surface, is variable to a considerable extent, according to age and sex.

There is also to be noted a variability (not very great, indeed, between puberty and incipient old age) in the texture of the lungs, with regard to density; which, so far as it affects the conductive qualities of the lung, must modify the stethoscopic phenomena.

Then there are personal differences of conformation requiring allowance—viz. great transverse amplitude or narrowness, and great vertical or antero-posterior depth or shallowness of the chest.

Another class of differences consists of varieties in the *timbre* and *pitch* of the cardiac sounds: It is plain that acuter sounds are more readily, and obtuser and graver sounds less readily transmitted; and that the former are less easily, and the latter more easily muffled and suppressed. The general effect of this normal variability, according to age, sex, conformation, &c. in the conditions favouring diffusion of cardiac sound over the surface of the thorax, is this: that there is almost no point on the anterior aspect of the chest, and no very considerable area on the lateral surfaces, where the cardiac sounds may not, in persons above puberty, especially females, occasionally be heard, without implying disease; while in a very large section, and that in several respects the most important section of civil society, the distinct perception, in a state of repose in the horizontal posture, of the heart's sounds, over more than a few dozens of square inches of the chest, and those in the proper cardiac region, is, according to my observation, a rare occurrence; and is, unless in slender frames, or after exercise or equivalent excitement, in most cases, if not always, symptomatic of pulmonary disease, with or without cardiac complication. The important class I allude to is that of adult males, from 25 or 30 to 55 or 60. But in children, the normal extent of diffusion of cardiac sound appears to me to exceed by much that of any other class; and this is owing to various favouring conditions, viz. 1. Greater density, and consequently superior conductive power for sound, in the pulmonary structures. 2. Comparatively closer proximity of the surface of the chest to the sonorous body. 3. The more acute pitch, and therefore more easy transmissibility of the sounds. Accordingly, in children I have often heard the cardiac sounds on the left posterior aspect of the chest without disease, and over most parts of the left anterior and lateral aspect; and on the right anterior aspect they will commonly be found audible to a *practised* ear, at least in the intervals of respiration; while, after exercise, they may in such subjects be heard all over the thorax.

Besides the physical conditions just pointed out, as favouring or impeding the transmission to the surface of the cardiac sounds, over a large area, there are certainly other influential conditions, of whose existence I have no doubt, but which I have been unable to identify. Almost every other student and mental labourer, for example, has personally experienced this, if, of course, his attention have been given to the matter—namely, that at moments of cerebral excitement, accompanied by vigorous action of the heart, the dyastolic sound at least (and often both sounds) has been perceptible to him in his own person, without any search for it, and especially in the horizontal posture. Now the reason of this I am unable confidently to state. It seems probable that the sound, or sounds, have been conveyed along the stream gushing from the ventricle into the aorta and internal carotid; but why it is so much more easily perceived in the horizontal than in the vertical position, I see no better reason than the conjecture that in the former the arterial throb and current upwards are probably more forcible and abundant, and better fitted to sharpen the sensibility of the auditory nerve on the one hand, and more capable of transporting an ample volume of sound on the other.

Of the obstacles to an extensive audibility of the heart's sounds in morbus cordis, that have their seat within the pericardium, the operation is obvious. When, as in the first case, the heart's throb is feeble, its sounds are necessarily more or less obscure; and when, as in the second case, the ventricular concentric action is hampered by the adhesion to the organ of a closely investing, thick, and uncontracting wrapper of organized or organizing lymph and thickened pericardium, the systole which directly excites the first sound, and indirectly the second, is of necessity less effective, although perhaps accomplished with greater effort than in the normal state. In the third case, also, or that of copious serous accumulations in the pericardium, it is plain, that although water is in itself no bad conductor of sonorous vibration, yet that the intervention of any considerable quantity of serum between the heart and the ribs, must, in many conditions (such, for example, as that of a patient in the horizontal posture), more or less muffle the cariac sounds; while the immersion of the mass of the heart in a medium so much more dense and less yielding than its usual mediately or immediately adjoining bodies—viz. the lungs and stomach—cannot be regarded otherwise than as unfavourable to energetic action in that organ.

With regard to those impediments to the abnormal diffusion of the heart's sounds in morbus cordis, which are seated outside the pericardium, this general observation may be made of all,—that they are seated in the lungs and its serous tunic; some depending on abnormal conditions of the air-tubes, others on change of

consistence or density in the lobules, others on morbid states of the pleura.

Those that depend on bronchial disease are principally chronic catarrh and emphysema pulmonum, or dilatation of the air-vesicles, with thickening, and often enlargement also, of the adjoining bronchial twigs and branches. When the action of the heart is feeble, and where the catarrhal whizzing or other sounds are loud, it is not unfrequently impracticable to hear the cardiac sounds even in the præcordia, and especially if the subject be in the supine posture. Under such circumstances, until the air-passages be relieved, auscultation can contribute little towards cardiac diagnosis.

Other embarrassing pathological conditions are—2. Change of density in the lung, either by increase or diminution of specific weight. 3. Serous or puriform effusion in the pleura.

1. It is well known that most, if not all, the important diseases of the lungs, at one stage or other, and always in the advanced stages, involve structural changes, with, in most instances, diminished porosity and increased density of more or less of the pulmonary substance. This condensation is produced in various ways, according to the nature of the morbid actions and of the tissue or tissues principally affected.

The principal modes that have fallen under my observation in cases of morbus cordis, have been the following — viz. 1. Effusions of blood into the air vesicles and lobular twigs of the bronchus, producing the pneumonic consolidations called, in different stages, hepatization, splenization, carnification, red and grey softening, &c. by different pathologists. In this condition I have found the lung equal the liver, in density and conductive power, in several instances.

2. Phthisical or casciform matter, in and around the air-passages, and probably also in the intervesicular cellular tissue, with an hypertrophy and tumefaction, partly, at least, scrofulous probably, of the parietes of the air-tubes. This condition, I have satisfied myself, includes, in many cases, a density and specific weight not differing materially from those of the liver, which is the densest and weightiest usually of all the viscera. 3. Hypertrophy of the air-tubes and surrounding cellular tissue, with congestion of the mucous membrane, and an œdematous state of the air vesicles and bronchial ramuscules. This is a condition of the lungs I have very generally met with in that chrochronic bronchitis that usually attends old heart diseases, especially in the labouring classes. It is a state in which, though the lung is porous to all appearance, and tolerably soft and spongy in the hand, yet there is a real diminution of porosity, and an increased average density, partly owing to increased deposition of solid matter in the tissues, and partly to the substitution, to a considerable extent, of watery for gaseous fluids in the air-passages. And that this œdematous condition is not a cadaveric appearance depending on exudation of serum, &c. during the agony or shortly after death, follows from this—that during life, the chest, in such cases, has always given acoustic evidence of the existence of such fluid excretions in the bronchial ramifications; and from this also, that in an important minority of instances, more or less abnormal dulness has been detected during life, especially in the lower lobes, but also in some cases in the middle, and even in the upper lobes, in a few examples. And this dulness on percussion, has been sufficiently decided and constant to lead me, in some cases erroneously, to suspect phthisical or pneumonic induration.

2. *Emphysema pulmonum.*—But the lung may be altered by diminution also, as well as by increase of density. This occurs in what Laennec described as emphysema pulmonum, and is a common complication of morbus cordis. The favourite seat of emphysema is the extreme margin of the lung from where it leans against the body of the vertebræ below and behind, along the circumference of the diaphragm, to where it approaches the cardiac region, and sweeping inwards towards the mesial plane, overlaps the pericardium, and interposes its compressed border between the heart and the ribs, receiving and no doubt absorbing much of the momentum of the systole. Other parts of the lungs are also subject to this morbid state, and I have usually found that of the more central parts affected with it, the upper lobes have been, owing probably to less extensive congestion, apparently at least more inflated and lighter than the lower.

Now it is obvious that an alteration of texture and density, such as characterize the emphysematous lung, must greatly restrict the diffusion of the heart's sounds. Of all conductors of impulse, gases are known to be the worst, whether that impulse be fitted to cause sensible motion or sonorous vibrations only; and an emphysematous lung is, in effect, a mesh of thin fleshy lamellæ, which are interposed between globular and columnar cavities filled with air.

3. *Hydrothorax, empyema, and other cases.*—Of compression of the lung by serous or puriform fluids in the pleura: in such a state of things the heart's acoustic phenomena are liable to several important modifications, including in most cases in-

creased audibility in point of area. In such circumstances it may occur, if the position of the heart be altered by pressure, from the left towards the right side, that the cardiac sounds shall be more or less distinctly audible all round the central parts of the chest, on both sides of it, and on every aspect; and if the effusion be in the right chest, then also the area of diffusion will be extensive on both sides, and perhaps more extensive on the more remote side than on the nearer. The presence of fluids in the cavity of the pleura, therefore, such as just referred to, tends obviously very much to complicate and embarrass the cardiac diagnosis; for whether the heart's nutrition and volume be increased or not, great extension of audibility may be expected. So that if the effusion occur on the left side, nearly abolishing pulmonary resonance on that side, as often happens, and if the heart's vital conditions be asthenic, and its contractions and expansions be either languid and slow, or quick and abrupt, so as to simulate the passive aneurism of Corvisart—a condition likewise not very rarely met with—in that combination or any other equivalent combination of things I know of no physical signs adequate to the diagnosis of simple morbus cordis, exclusive of inflammatory and valvular disease.

CLINICAL LECTURE,

Delivered at University College Hospital,

By Samuel Cooper,

Senior Surgeon to University Coll. Hospital, &c.

Rupture of the ileum, by external violence, in a man who had a hernia, and gave a false account of himself.

Gentlemen,—You may remember that, in the last sessional examination, I proposed as one of the questions—"If a patient were to receive a violent blow, or kick, on the abdomen, and to be soon afterwards brought to you with a hernia, which, for reasons unknown to you, he repeatedly but falsely declared had been occasioned by such external violence, and had not existed previously to it; what would be the considerations, justifying the inference, that the sickness, tension of the abdomen, pain about the umbilicus, and the difficulty, perhaps at first, of procuring free evacuations from the bowels, did not depend upon the hernia, but upon some other lesion within the abdomen?"

This question was suggested by the following very remarkable case, the particulars of which were taken by my friend, Mr. Morton, of University College:—

Joseph Thomas, æt. 40, labourer, was admitted under Mr. Cooper, at 10 o'clock on the morning of the 12th April, 1839. This man states, that as he was descending the steps leading to the area of the house in which he resided, he slipped and fell down to the bottom, in such a manner that he struck the lower part of his belly very violently against the edge of the lowermost step. He felt very sick, and vomited immediately afterwards, rejecting his breakfast, which he had taken a short time previously.

On his admission he was in a state of great depression, suffering from excessive pain in his belly, which was much swollen, and extremely tender under pressure. There is a continual vomiting, by large gulps, of a dark-coloured fluid; the surface of the body is cold; the countenance expressive of great anxiety, and bedewed with a clammy perspiration. The pulse is 130, and scarcely perceptible.

There is a hernial tumor upon the left side, of the oblique inguinal form, the contents of which appear to be chiefly intestinal, and, though perfectly reducible by the pressure of the hands, descend when he vomits or coughs, and even without these actions. There is also an obscure tumefaction in the right iliac region, in the situation of the upper part of the inguinal canal, presenting all the characteristics of an incomplete bubonocele.

The man, when questioned as to the length of time that the hernia on the left side has existed, declares that it did not exist previously to the fall, and that he believes that it has been produced in consequence of the blow he then received.

With a view of determining whether the bladder had suffered any lesion, a catheter was introduced, and about a pint of clear urine withdrawn. The bladder was ascertained to be uninjured.

12 o'clock.—The pain, tenderness, and tension of the belly, have increased. The respiration is chiefly thoracic. Pulse is now 120, and stronger than at the time of the patient's admission.

A dozen leeches to the side of the belly where the blow was received. A spica bandage and compress applied to keep up the hernia.

4 o'clock.—The previous symptoms still continue unabated, and the belly is now rather tympanitic. He complains of intense thirst, and is exceedingly restless, tossing himself to and fro in bed. The leeches have bled freely.

Fotus calidus abdomini. Cataplasm. emolliens postea.

In the course of the evening he was bled to ℥xvj., and took a powder containing gr. vj. of calomel, and gr. j. of mur. morphiæ, which was to be followed with calomel, gr. iij. every three hours.

April 13th, 10 A.M.—Has passed an easy night, having slept the greater part of it; vomits now only occasionally; pulse has fallen to 100 beats in the minute. The pain and tension of the belly are much abated, and he expresses himself as feeling much relieved. The blood drawn is not buffed nor cupped.

10 P.M.—Is not so well as in the early part of the day. There is now more anxiety of the countenance, with the same restlessness as before. The pulse is again become very frequent and feeble, with an increase of the pain and tenderness under pressure of the belly. The vomiting of the dark-coloured fluid is now incessant. In the situation of the hernial tumor on the left side there is an evident crepitation perceptible to the finger when it is handled, as if air and liquid were effused into the cavity of the sac. The intestines do not now descend into the hernia as before, although the truss has been removed, on account of the patient absolutely refusing to wear it, in consequence of the pain which its pressure produces.

V.S. ad ℥xviii. Cont. pil. Calom.

He now gives a different account of the hernia, which he says he has had for several years, and which was first caused by the frequent coughing consequent upon an attack of asthma to which he was then subject.

14th.—The state of this man is evidently becoming much worse, although he expresses himself as feeling much relieved. The pulse is very frequent, and almost imperceptible. The extremities are becoming cold. The belly is less tender, but it is more swollen than before. As the calomel is beginning to act upon the bowels he is ordered to intermit it, and to take small quantities of brandy and water. Warmth to be applied to the extremities.

15th April, 4th day.—Has had no sleep during the past night. Is incoherent in his answers to questions that are put to him. Attempts to get up out of bed. Subsultus tendinum. Pulse very frequent and feeble. Surface of the body becoming cold. He died at half-past 2 o'clock, P.M., a little more than four days from the receipt of the injury.

At the inquest which was held after his death, it was proved that the injury was not caused as had been stated by the patient himself, but that it happened on the evening previous to his admission into the hospital, being produced by a kick upon the belly which he received in a drunken brawl.

Sectio Cadaveris, twenty hours after death.—There is a trifling wound over the left eye-brow, with extensive ecchymosis of the adjacent subcutaneous cellular tissue. A slight bruise is perceptible externally upon the parietes of the abdomen, a little below and to the left side of the umbilicus. On laying open the cavity of the belly, the entire surface of the peritoneum, both lining the walls and investing the intestines, presented the appearance of having been intensely inflamed. There was a copious effusion of recent coagulable lymph, which glued the folds of the intestines and the omentum to one another, and these again to the internal surface of the parietes of the abdomen. About a pint of dirty-coloured serum was found among the folds of the small intestines and in the cavity of the pelvis. Some small crumbs of half-digested bread were floating in this fluid. The coats of the ileum were found to have been ruptured about three feet from the cœcum. The size of this laceration was about that of a four-penny piece; the edges of it were everted, and it was nearly closed by the protrusion of the mucous coat of the bowel. The lacerated intestine lay exactly opposite to the situation of the external bruise. The hernial sac on the left side, which was evidently of long standing, contained some of the same dirty-coloured serum that was found within the general cavity of the abdomen. On the right side, there was an incomplete bubonocele.

No blood was passed by motions from the bowels—a circumstance which was also observed in the case of a man named Alcock, who was admitted under my care in 1836, for a similar injury of the ileum, and who survived the accident no less than eight days.

Remarks.—This man, it seems, then, met with a fall, and received, according to his own statement, a blow on the abdomen; but he had had likewise a quarrel with his wife, which he kept concealed, and in which, as he was going to strike her, she put out her foot, and he received something like a kick on the belly. In his illness, perhaps, his conscience pricked him, for he knew that he had been ill-treating the woman, and was probably unwilling to implicate her in the consequences of the transaction. Hence, I suppose, the false account which he gave of the particulars of his case, and especially of that part of it relating to the alleged first production of the hernia on the morning of the accident, and from the blow received in the fall against the area steps. Now, although various circum-

stances, as I shall presently explain, led us to feel tolerably certain that the bad symptoms depended upon some lesion within the abdomen produced by the external violence, yet, when the failure to procure evacuations from the bowels had continued beyond a certain period, and the symptoms of peritonitis were getting worse and worse, I deemed it right to question the patient repeatedly concerning the truth of his statement about the hernia being quite a recent one, and its not having existed prior to the morning of the fall, and he as repeatedly affirmed that it was not of longer standing. Under these circumstances it seemed just possible that some part of the bowel might be entangled and strictured within the inguinal canal, or at the inner ring; for, until motions had been obtained, though the parts appeared to be easily reducible, they always protruded again the instant the pressure was removed, and, as we find recorded, no blood was discharged *per anum*, as might have been expected from a lesion of an intestine. The man's false account of himself, and the latter considerations, at one moment led me to think of laying open the inguinal canal; but directly I spoke of an operation the patient's manner at once informed every body who saw him that he had been giving an untrue account of himself, and that he knew that the source of his perilous symptoms was not the hernia.

Gentlemen, were you to meet with such a case again, I would invite your attention to the following points, as calculated to guide you through the difficulties:—

1. The state of the pulse immediately after the accident. Had the case been a strangulated hernia, the pulse might have been at first 80 or 90, and full, but not 130 and remarkably feeble, with coldness of the extremities. In fact, a hernia would not have occasioned the rapid depression of the system, that marks the laceration of some important internal organ.

2. The freedom from tension and severe pain in the tumor was another difference from a strangulated hernia.

3. So was the facility of reduction, notwithstanding the return of the protrusion directly afterwards, until free evacuations from the bowels had been procured.

These, I think, would be the principal points meriting your attention, as forming the basis of an accurate discrimination.

Considerable hypertrophy of the bursa over the ligament of the patella — Excision of the tumor.

Mary Lovett, æt. 30, admitted April 18, 1839. About five years ago, she noticed a swelling in front of her right knee, attended with pain, and attributed by her to kneeling a great deal on a paved kitchen. At first she tried leeches; but as she had no opportunity of discontinuing her work, they afforded her but little relief. The swelling soon became larger and harder, and at length was a serious incumbrance to her, rendering her in some degree lame.

On her admission the enlarged bursa was equal in size to an orange, and seemed from its cartilaginous hardness to leave no chance of removal by any other means than the knife. I performed the operation on the 25th of April, making two semilunar incisions, and then dissecting the bursa out. Its deeper part was so closely united to the ligament of the patella as to be, as it were, consolidated with it; and some care was therefore required to avoid wounding the knee-joint. The sides of the wound were approximated with strips of adhesive plaster, and a cold evaporating lotion was applied. No serious constitutional disturbance ensued, and the wound, which did not unite, healed up after a time by the granulating process.

The bursa in front of the ligament of the patella is very liable to inflammation in persons who kneel a great deal on hard surfaces, as is the case with housemaids employed in scouring floors. In most instances, the first effect of the inflammation is to cause an increased secretion of the synovial fluid within the bursa. In other cases, the bursa becomes distended with turbid serum, in which are flakes of coagulated albumen, or perhaps of fibrin. Occasionally the inflammation advances to suppuration. Sometimes the membrane of the bursa becomes thickened and converted into a gristly substance. I have often seen it nearly an inch in thickness. In the specimen before us, removed from Mary Lovett, the bursa is every where transformed into a gristly substance, with the exception of a small portion of its centre, which was cellular, and out of which a small quantity of synovial fluid could be pressed. Now and then the bursa is converted into a bulky mass entirely solid.

When the bursa inflames, an early effect is generally an increase of the synovial fluid in it, and hence a fluctuation is at first perceptible, attended with redness of the skin; but afterwards, as the bursa becomes thickened, the fluid is less perceptible.

It is not my intention, gentlemen, to enter into a description of the treatment of inflamed and diseased bursæ, as they present themselves in the stage of acute inflammation, or of abscess, or of chronic

inflammation. The case before us only exemplifies what may be done when a bursa is converted into a tumor with very thick sides, or even into a perfectly solid mass, and the patient is lamed, and rendered incapable of earning a livelihood so long as the tumor remains. I would not, however, recommend you to attempt the excision of diseased bursæ, unless the inconvenience from them be truly great, and they resist other means of cure. Operations of this kind have sometimes been followed by a fatal attack of phlegmonous erysipelas. The constitution you have to deal with, as well as the annoyance of the tumor, must therefore also be considered. Diseased bursæ cannot prudently be removed if they envelop tendons, or communicate with the cavity of a large joint. The bursa must be a superficial one to justify the operation.

The bursæ mucosæ appear to be easily reproduced, and are well known to be readily formed, as occasion requires, wherever parts of the body are subjected to habitual or long-continued pressure. Sir Benjamin Brodie lately mentioned to me a case, in which he extirpated a large diseased bursa situated in front of the knee; and, not long afterwards, the same patient presented herself at the hospital with another bursa in the same situation, and nearly as large as that which had been removed.

CLINICAL REPORTS

OF

DIFFICULT CASES IN MIDWIFERY.

By Robert Lee, M.D., F.R.S.

Physician to the British Lying-in Hospital, and Lecturer on Midwifery at St. George's Hospital.

FIFTH REPORT.

[Continued from page 12.]

Cases of Distortion of the Pelvis in which Premature Labour was induced.

Case CXXVI.—On the 3d July, 1828, I was requested by Mrs. Phillips to deliver Mrs. Rodwell, a little deformed woman, 26 years of age, residing at No. 21, Princes Street, Drury Lane, who had been in labour with her first child upwards of twenty hours. The umbilical cord was hanging out of the external parts and did not pulsate. The right foot was in the vagina, and the head over the brim of the pelvis, and so firmly fixed in that situation, that by no force which I could exert upon the left leg could the nates be brought into the pelvis. The pains were feeble and the orifice of the uterus but partially dilated. The outlet cavity and brim of the pelvis were all very much distorted. Finding it to be impossible to bring down the breech of the child, or press back the head, I performed the operation of craniotomy, and it was not till the greater portion of the bones of the cranium had been removed with the crotchet, that I succeeded in dragging down the trunk and superior extremities of the child. When this was done, the crotchet was passed up, and its point fixed on the base of the skull, and the head drawn into the cavity and through the outlet of the pelvis. Dr. Stephen Hall was present at the delivery, which lasted from ten at night till two o'clock in the morning.

The tuberosities of the ischia were not more than an inch and a half asunder, and the distance from the promontory of the sacrum to the symphysis pubis was under three inches.

This patient had a severe attack of uterine inflammation after delivery, which required copious venesection. In ten days she had nearly recovered her usual state of health.

Case CXXVII.—In 1829, about 15 months after this, Mrs. Rodwell being in the 7½ month of her second pregnancy, I brought on labour by detaching the membranes with a bougie from the lower part of the uterus. Labour came on 60 hours after this separation had been made. The head of the child presented, but it could not be pressed through the brim of the pelvis, though she was left 48 hours in labour. The head was easily extracted with the crotchet after perforation, and she speedily recovered.

Case CXXVIII.—In 1830 the same patient had premature labour induced a second time at the 7½ month of her third pregnancy. A superior extremity presented, and the operation of turning was performed with great difficulty. After the child had been turned, the head could not be brought through the brim of the pelvis, till perforated in the back part, and strong traction employed with the crotchet.

Case CXXIX.—I induced premature labour a third time in 1831, when Mrs. Rodwell was at the 7½ month of her next pregnancy. The nates presented, and after the trunk and extremi-

ties of the child had been extracted, the head could not be drawn through the brim of the pelvis without the operation of craniotomy. This was performed with the perforator and crotchet, as in her first labour

Case CXXX.—On the 5th October, 1832, Mrs. Rodwell being in the 7½ month of her fifth pregnancy, I passed up an elastic catheter into the uterus and detached the membranes all round from the cervix. No pains having been felt, three days after I separated the membranes still more extensively. This was followed by a considerable hæmorrhage from the uterus for several hours, but no labour pains. The following day she appeared much exhausted, but there were no labour pains. I then perforated the membranes, and the liquor amnii began to escape and labour pains came on soon after. In the evening the pains were strong, the os uteri was widely dilated, and it was ascertained that the nates presented. The labour was allowed to continue for several hours, till it became certain the nates would not pass without assistance, and they were then extracted, and also the trunk and superior extremities. The head, however, would not follow, though I pulled strongly upon the neck. The perforator and crotchet were employed, and the delivery was at last effected, but death took place five days after from uterine phlebitis.

Case CXXXI.—On the 17th January, 1830, I was called by the late Mrs. Dobson to deliver Mrs. Jarvis, æt. 30, residing at No. 6, Gough Street, Clerkenwell, who had been forty-eight hours in labour. The pelvis was greatly distorted, the whole head of the child above the brim, and the os uteri not more than half dilated. The pains had nearly ceased, and she was quite exhausted. The perforator was conducted to the head, along the inside of the fore and middle fingers of the left head, and with these the os uteri was protected from injury, while the opening was being made. The crotchet was then introduced, through the opening, within the head, and the brain broken down, and a quantity of it discharged. I found it impossible to lay hold of any part of the head with the craniotomy forceps, from the distorted state of the pelvis and undilated state of the os uteri. More than three hours elapsed before I succeeded in dragging the head with the crotchet into the cavity of the pelvis, and not until the point of the instrument was passed up and fixed on the outside of the head behind the jaw. The bones of the upper part of the head were all torn to pieces, and the fingers of my left hand much injured before the delivery was effected. The placenta came away in half an hour, and the patient recovered as if the labour had been natural.

Mrs. Jarvis was a native of Manchester, and when young had spent several years in one of the cotton manufactories of that town. She married at 20, and had given birth to three living children at the full period without assistance. During her fourth pregnancy, she suffered much from pains about the sacrum and ilia, and became unable to to walk.

Case CXXXII.—On the 11th July, 1832, I was requested by Mr. John Prout, surgeon to the British Lying-in Hospital, to see Mrs. Jarvis, who had again become pregnant, and was in labour at the full period. Labour commenced at 2 o'clock in the morning of the 11th July, when the liquor amnii was discharged. In the evening Mr. Prout saw her for Dr. Golding, and from the distorted state of the pelvis he found it impossible to reach the os uteri with the finger, and thought delivery could never be accomplished but by the Cæsarean operation. At eleven o'clock at night I saw her with Mr. Prout, but the os uteri could not be touched with the finger, and the nature of the presentation could not be ascertained. The pains being weak and irregular, and there being no reason for immediate interference, we resolved to leave her without assistance during the night, hoping that the orifice of the uterus and presenting part of the child would come into a more favourable situation. At eight A.M., 12th July, we found that there had been strong pains during the night, but neither the orifice of the uterus nor presentation could be felt. In the course of the day Dr. Golding saw her with us, and it was then ascertained that the orifice of the uterus was considerably dilated, and that the head of the child presented. The head was immediately perforated, and the brain destroyed. Fourteen hours after, when the bones of the head had been a little

squeezed into the brim of the pelvis, Dr. Golding passed up the crotchet between the uterus and head, and fixing its point in one of the orbits, succeeded in dragging the head through the pelvis.

She recovered as favourably as she had done in 1830. She did not suffer from pains about the pelvis after this time, and was able to walk about. There was no distortion of the lower extremities, or of any other part of the body.

Case CXXXIII.—In the month of June 1833, when the same patient was near the end of the 5th month of pregnancy, I attempted to induce abortion by perforating the membranes with a slender silver catheter. The first attempt was unsuccessful from the firmness of the membranes, but the second trial made a week after was speedily followed by the escape of the liquor amnii, and in eight days, by the expulsion of the embryo, without artificial assistance.

Case CXXXIV.—On the 12th Feb. 1835, I induced premature labour in the same patient at the commencement of the 7th month of pregnancy. Thirty-two ounces of liquor amnii flowed through the silver catheter with which I punctured the membranes. The fœtus was expelled without artificial assistance, but its head was squeezed so as to be quite flat on the sides. Mr. Williams, of Calthorpe Street, and Mr. Rumsey, of Beaconsfield, were present.

I may here remark, that in no case of distortion, however great, can it be necessary to induce premature labour before the end of the 5th month of pregnancy, when the fœtus is so small and soft that it can be easily extracted. The length of the cervix uteri before this period must render it both dangerous and difficult.

Case CXXXV.—On the 19th Jany. 1836, when the same patient was at the end of the 6th month of pregnancy, I endeavoured to induce premature labour by puncturing the membranes. The os uteri was, however, so high up, that I could not reach it with the point of the finger, or introduce the catheter so as to perforate the membranes.

On the 12th Feb. 1836, I renewed the attempt, but again failed, and partly in consequence of the fore-finger of my left hand being still nearly deprived of sensation and the power of motion, from a dissection wound, followed by deep-seated inflammation of the joints.

I resolved to try the effects of ergot of rye, and gave five grains every four hours for several days. On the 18th, Mrs. Jarvis informed me that she had felt pains in the back, and down the thighs, for about ten minutes after taking each powder of ergot, but that no other effect had been produced by them.

The ergot was continued every three hours during the day till the 23d, when pains like those of labour came on, but they gradually ceased, and the ergot was discontinued, in consequence of the sickness and vomiting it produced.

On the 28th, the ergot was again tried, but as it produced nothing but violent sickness, she refused to continue its use any longer.

On the 14th of March, another attempt was made to perforate the membranes with the instrument invented by Mr. Holmes for the induction of premature labour, but this was also unsuccessful, in consequence of the instrument not being sufficiently curved.

On Thursday, the 24th of March, I passed up into the uterus a stiletted silver catheter, much more bent, which had been made for the purpose, and with this the membranes were easily perforated. The liquor amnii immediately after began to escape, and labour pains commenced the following day. Friday, 25th, the pains continued feeble and irregular during the Saturday, Sunday, and Monday, and on the Tuesday they became strong and regular.

At 6 o'clock in the morning of Wednesday, the 30th, the os uteri was thick and unyielding above the brim of the pelvis, and very little dilated. The presentation could not be ascertained. The pains continued strong and regular. Mr. Simpson, of Gray's-Inn Lane, took ʒviii. of blood from the arm and gave 40 drops of laudanum. At this time I feared that it would be necessary to have recourse to the Cæsarean operation, to prevent her from dying undelivered.

At 4 P. M. the pains continued; the os uteri was much more dilated, and I ascertained that the nates presented. I immediately resolved to attempt delivery, by passing the crotchet through the anus, completely within the pelvis of the fœtus, fixing it upon the bones, and extracting. This succeeded, and the pelvis and lower extremities were de-

livered without much difficulty, and a strong tape was passed around the body of the child. The abdominal and thoracic viscera were then drawn out with the crotchet, and the upper extremities brought down. The fore and middle fingers of the left hand were then slid along the back of the child, and pressed forward till they touched the occiput. The perforator was then passed up to the occiput, and a free opening made in it. The crotchet was next passed up, and its point forced through the opening, fixed on the base of the skull, and strong traction made for some time. At last I succeeded in extracting the head, with the bones all crushed together.

After this severe and tedious operation she was left in a very exhausted state, and died the following day, with vomiting and other symptoms of ruptured uterus.

On examining the body after death we found the muscular coat of the anterior part of the neck of the uterus lacerated. The pelvis was removed, and is now in the Museum of St. George's Hospital. Its brim, cavity, and outlet, are all much distorted; the last lumbar vertebra occupies the usual situation of the base of the sacrum, which is pressed down into the cavity; the bones of the pubis have been forced together so as nearly to touch each other, and give to the brim of the pelvis a cordiform shape. On the left side, a line drawn from the middle of the last lumbar vertebra to the ilium, behind the acetabulum, measures one inch and a half; on the right side, a corresponding line measures only an inch and a quarter; from the middle of the last lumbar vertebra to the bones of the pubis the distance is an inch and three-quarters.

At the outlet, the tuberosities of the ischia are only three or four lines asunder, and the arch of the pubis does not exist; the lower extremities of the sacrum and coccyx pass horizontally forward, so that the apex of the latter bone is only two inches and three lines from the point where the tuberosities of the ischia nearly meet.

This is the only case of distortion from malacosteon that I have met with in practice, and the softening was entirely confined to the bones of the pelvis.

In reflecting on this case I regret extremely that I placed the slightest dependence on the ergot of rye, and that I had not taken means to ensure the perforation of the membranes at an earlier period, which would have prevented all the evil consequences that followed.

Case CXXXVI.—On the 30th Aug. 1836, I was requested by Mr. Wise, of Wardour Street, to deliver a woman, named Robinson, 24 years of age, residing in Princes Court, Newport Market, the bones of whose pelvis and lower extremities were much distorted with rickets; she was at the full period of her first pregnancy, and had been in labour many hours; the cord was hanging out of the external parts without pulsating; the head was entirely above the brim of the pelvis, and the os uteri was about half dilated, and its edge thin and soft. As the sacro-pubic diameter scarcely exceeded two inches, and the outlet of the pelvis was also much contracted, I immediately perforated the head. The crotchet was then employed to extract the head, but after a time it was laid aside, in consequence of the bones being torn extensively, and the impossibility of fixing its point on any part of the inside of the skull so as to obtain a secure hold. With the craniotomy forceps I laid hold of one of the parietal bones and the integuments covering it, but in a short time these came away, leaving the greater part of the head still above the brim; the forceps was reapplied, but though I exerted my whole force in dragging down the head, it would not pass, and I began to fear that I would not succeed in completing the delivery. By introducing all the fingers of my left hand into the vagina as far up as possible, and directing the forefinger on the outside of the head, I was able to feel one of the eyes. I passed the point of the crotchet into this orbit, and getting the fore and middle fingers of the left hand on the inside of the skull, and with this hold I soon drew the head into the cavity of the pelvis. The head would probably never have been extracted in this case with the crotchet, had not its point been carried up on the outside and fixed in the orbit.

Case CXXXVII.—On the 1st October, 1837, when this woman was at the end of the seventh month of her second pregnancy, I induced premature labour. She

was left long in labour, but the head would not pass till it was perforated. The extraction of the head was an easy operation.

[To be continued.]

ON VACCINATION.

To the Editor of the Medical Gazette.

Sir,

It may, perhaps, be remembered by some of your readers, that, about a year ago, I was induced, from circumstances then stated, to publish in your journal a brief outline of some opinions I had entertained regarding the origin of the vaccine disease. From time to time since that period I have repeated my experiments, inoculating with the small-pox virus both the cow and calf—upon the udder, the teat, under the tail, and within the ear, without, however, being able to obtain the expected lymph. At the last meeting of the British Association I brought the subject before the Medical Section, in a paper "Upon the Cause of the Increase of Small-Pox, and of the Origin of Variola-Vaccinia." I was then informed by Dr. Baron that Mr. Ceely, of Aylesbury, had lately obtained what I had desired to procure, by inoculating a cow with the variolous matter upon the labiæ pudendæ, and that, from the vesicle of lymph produced, he had vaccinated several children with perfect success. The correctness of my theory is thus established by experiment; but some may perhaps say that this was only practically acting upon Jenner's theory: now Jenner's theory was, that "cow-pock was probably coeval with the brute creation;" whereas I considered it probable that cow-pox originated in small-pox, *i. e.* that variola-vaccinia sprung from the human variola.

The reasons I had for forming this opinion may be thus briefly stated:—Previous to the great discovery of Jenner we know that small-pox prevailed to an alarming extent, and we are also certain that the vaccine disease was much more common amongst cows, at that period, than it is now. Looking at these facts thus placed together, one was more apt to view them in the relation of cause and effect than as a matter of mere accident. We have only to believe the accounts recorded of this wide spreading pestilence, and readily admit the ease with which the virus might be carried from, and by, one living bring to another. But further, we have generally been led to believe that two *dissimilar* contagious irritations could not go on *together* in the system at the same time; but several cases are reported, by different authors, of variola and vaccinia running their course together: not a few of such cases came under my observation at Ripon during an epidemic which prevailed there in 1837, reports of which I read at the medical section of the Association. If, then, such cases do occur, and if there be any truth in the preceding axiom, it appeared to me that the two diseases, variola and vaccinia, could not properly be considered dissimilar—which proposition has assumed the appearance of a certainty by the late experiments.

Having, then, established this point, the discovery is capable of becoming in an eminent degree beneficial to man. Suppose, for instance, that small-pox broke out epidemically in a town or village isolated, or cut off from communication with other towns or villages by any imaginable cause; that the disease was raging fearfully around, and every day increasing the number of its victims, whilst the prophilactic had entirely died out of use, and disappeared; in such a case all that would be necessary to stay the plague, would simply be to take the variolous matter from off a patient, who might even be dying of the disease, and inoculate a cow upon any of the mucous surfaces, and thenceforth obtain a plentiful supply of genuine preventive vaccine lymph.

I had intended to have said a little upon the similarity of the two diseases, variola and varicella, and to have shown that the same cause which produces small-pox during a variolous epidemic in the unvaccinated, may and does give rise to chicken-pox in the vaccinated; but I would rather, at the present critical period, when people are almost entirely neglecting vaccination, and when as rapidly, small-pox, in all its loathsomeness, is stealing upon them, and when the number of deaths from this disease alone, within the last year, is almost inconceivable, I would rather, I say, call upon our medical brethren throughout the kingdom, with one

voice to petition the government to enforce (as is done abroad) not only the vaccination of every child born in these realms, but the re-vaccination of every man in the British service; for it is expedient for the public good that a legal obligation be laid upon the nation.

In concluding, I have to offer an apology for having occupied so large a space in your valuable journal, but the importance of the subject merits our consideration, and must alone be my excuse.—I am, sir,

Your obedient servant,

James Inglis, M D.

Halifax, Sept. 24, 1839.

DIAGNOSIS OF THORACIC DISEASES.

To the Editor of the Medical Gazette.

Sir,

The histories of two cases of intra-thoracic disease diagnosticated during life, and verified by post-mortem examinations, are exceedingly interesting in many points, and especially serve to show the possibility of medical men making the diagnosis of phthisis in many cases where it either does not exist alone, or is not even present at all. In some cases we readily admit the utter impossibility of arriving at a true diagnosis, but on the other hand there are a number of cases in which the exact nature of the disease affecting the lung can be prognosticated, even in the case of tumors affecting the organs of respiration, from collateral circumstances, aided by the physical signs; as the following case illustrates:—

J. B——, æt. 22, a man of small stature, blue eyes, auburn hair, and exceedingly fair skin, applied for medical advice, in consequence of his not being able to perform his avocations as vocalist, owing to hoarseness and roughness of his throat. He acknowledges having led, for the last six or eight months, a very dissolute life, seldom or never being in bed before four o'clock in the morning; has frequently been exposed to the vicissitudes of temperature, drank hard, and has been in every way careless of his health. About six months ago, he observed a swelling under the angle of the submaxillary bone, which he took no notice of at first, but becoming painful, he took the advice of his medical man, who applied an ointment of some kind, but without relief. The tumor gradually enlarged, and at length suppurated, giving exit to about an ounce of pus. His voice at this time was only a whisper; his throat became painful when pressed, and a very troublesome cough, accompanied with a ropy expectoration, disturbed his repose. Did not sweat at night; now and then had slight shivering; bowels rather too free, but cannot recollect the exact number of evacuations passed daily. Began to loose flesh and strength very fast. He gradually grew worse, when, two months ago, I for the first time saw him. He was then greatly emaciated; countenance expressive of great suffering; speaks in a hoarse whisper; ulceration of throat extensive. Tongue furred; complains of great thirst.

His breathing is remarkable, and accompanied with great muscular exertion, and, if I may be allowed the expression, instead of appearing to proceed from the mouth, seems as if it proceeded immediately from the upper part of the sternum, and his voice, when speaking with the slightest effort, produces the same effect. Says he wishes to cough, but cannot. On percussion of the chest it gives a clear sound everywhere: on the application of the stethoscope the following phenomena are audible. Under the left clavicle the respiration is decidedly cavernous, and occasionally there is a loud gurgling râle. Over the whole of the inferior portion of the lung respiration is exceedingly feeble: at the apices of both lungs the voice is resonant, not, however, amounting to pectoriloquy. The same phenomena are audible on the right side, but with this exception, that the respiration is louder. On listening over the sternum, the tracheal respiration is exceedingly loud, and seems to come up into the stethoscope. Examining along the trachea the same fact is observed, accompanied with a slight mucous rale. The place where the tumor originally was still discharges a quantity of puriform matter. At my request he tried to swallow a bit of bread, but complains of great pain in doing so, referred to a spot pointed out by him immediately behind the sternum,

and observes that he experienced the same difficulty in swallowing liquids, and thinks at times that he is choaking. Heart's action not very vigorous, and the sounds are heard distinctly at the supero-posterior part of the right lung. Pulse 100, small; does not sweat; has no diarrhœa at present; spat up some blood mixed with mucus; cough very short, but shrill; cannot lie with his head low, in consequence of this feeling of suffocation. He was ordered Inf. Rosæ c. Acid. Sulph. Dilut., and a pill of Ext. Conii and Ipecac. at bed-time, and Chlorid. Sodæ gargle for the throat. Arrow-root diet. As, however, was fully expected, he grew rapidly worse, and died at the end of six weeks from his first attack.

Observations.—That the unfortunate being, whether the subject of phthisis or not, was beyond all medical aid, did not admit of a doubt, so that our treatment was only palliative, and in this one respect the case does not possess much value: it is, however, only in a pathological point of view that we lay it before the reader. If, then, we examine carefully into the man's history, and couple this with the facts derivable from the stethoscopic examination, we must, I think, acknowledge, that the existence of *uncomplicated* phthisis was exceedingly doubtful. We had, on percussion, a decidedly clear sound, especially over the left lung. This certainly did not indicate tubercular deposition. There was evidence of cavities in the upper portion of the same lung, but then they were not necessarily tubercular, and the feebleness of respiration led us to suspect emphysema. On the other hand, we have a certain amount of dysphagia, and that almost indescribable and peculiar stridulous respiration which has been designated, I think very properly, by Dr. Wm Stokes, as the "stridor from below;" and we also had, in this case, evident disease of the glands about the neck. Add to this the total inability to cough, not forgetting the loss of voice, which, however, might in some measure be accounted for by the ulceration of the throat, and I think there is but one affection under which we could have placed the disease; and accordingly the following diagnosis was made:—In all probability the man has tubercle, but that he has a tumor of some kind compressing the trachea I think almost evident. He has emphysema of the left lung in its inferior portion, and certainly the signs of cavity, but whether the result of the softening of tumors, or of tubercle, is a matter of doubt. This diagnosis being made, we were naturally anxious to obtain a post-mortem examination, which we were fortunate enough to succeed in.

Examination 12 *hours after death.*—Exterior: Body exceedingly emaciated. No signs of putrefaction as yet.

Interior.—A section was made from upper part of cervix to umbilicus, and the viscera carefully removed. The lungs adhered firmly to the pleura by many points, in the cavity of which there was no effusion. The trachea, including the glottis, was now cut away, together with the lungs, and, on inspection, present the following interesting appearances:—There is intense tubercular deposit throughout both lungs; indeed as much so as we have ever seen in the worst cases of phthisis. The lower lobes of left lung are emphysematous: these small cavities exist in the upper portions of both lungs. On examining the trachea, we discover a large tumor (evidently a bronchial gland), filled with a soft cheesy matter, lying on the right side of the trachea, just as it is giving off the right bronchus. This tumor is the size of a hen's egg. The upper portion of the trachea was much affected by ulceration. These are the only particulars worth relating.

It has been seen that in this case at least a successful diagnosis has been made; but there are one or two circumstances deserving of especial mention, and which afford, we apprehend, a tolerably useful guide, when taken in connexion with others, in cases of compression of the trachea. These are, the character of the respiration, and the peculiar efforts which the sufferer makes in performing it; for instance, in mere ulceration of the trachea, although we may have loss of voice, and refer this morbid state to the ulceration of the air and vocal tube, nevertheless the respiratory effort is performed quite differently from what we observe it to be in cases of compression. In this latter case we have the "vis medicatrix naturæ," if I may be allowed the expression, dictating to the parts of the body concerned how to obtain relief; accordingly we find the individual

opening his mouth, the muscles of his neck contract forcibly, and he raises his clavicles and shoulders, as if conscious that by this means he effected a partial removal of the cause of obstruction to the passage of air. Now, as before observed, we do not have these actions produced in cases of mere ulceration of the trachea; and although the breathing be harsh and the voice hoarse, yet it possesses of itself sufficiently distinct characteristics. We will now proceed to the next case.

P. O'H——, æt. 30, has been accustomed to drink rather freely of whiskey, keep irregular hours, and lived on poor diet. His trade, as a blacksmith, exposed him to sudden changes of temperature. His family have been all healthy persons. About three months ago, after a hard day's work, and whilst sweating profusely, sat down in a public-house, with his chest exposed, drinking ale and whiskey. Soon after his return home, he was seized with shivering, pain in head and loins, and the next morning was so stiff in his limbs, and felt so generally ill, that he was forced to keep his bed, which he has never left. Three weeks ago he applied to me for advice, by the request of his medical friend, with the view of confirming the opinion that the man had phthisis. When I saw him, he presented the following condition:—Greatly emaciated, and appears the wreck of a very muscular man. Countenance expressive of great anxiety; respiration performed with great muscular exertion; voice exceedingly hoarse. The chest sounds every where well on percussion: on applying the stethoscope, the following signs were audible:—Mucous râle in lower portion of left lung, and distinct gurgling in the upper part of same lung; resonance of voice; respiration feeble; general signs of bronchitis in the right side. On applying the stethoscope over the upper part of sternum, the respiration is exceedingly loud, harsh, and attended by a whizzing sound, on listening without the instrument at some distance from the chest—the peculiar "stridulous breathing," or stridor from below, of Dr. Stokes. Complains of great pain on swallowing, referred just below the upper portion of sternum; is unable to lie down, and maintains constantly the semi-recumbent position. Sweats at times profusely. Bowels tolerably regular; is much annoyed by a short, troublesome cough, accompanied with very little expectoration.

Inf. Rosæ c. Acid. Sulph.

It would be mere repetition to recount his symptoms daily: he gradually grew worse, and sunk on the second week after I saw him.

Examination.—There is not a trace of tubercle in either lung. On the left, and in upper lobe, there are five tumors, filled with cheesy matter, and a larger one in a suppurated state. Immediately under the clavicle in the right lung, there is a small cavity in the superior lobe, and eight or nine small tumors, about the size of hazel nuts. At the root of the trachea, immediately above its bifurcation, there are five enlarged glands, filled with a similar matter as those of the lung, about the size of ripe walnuts, completely encircling the trachea: one of them broke in extracting the parts. It was very much like a cyst, its coats thickened, and by no means vascular; internally it had very much the appearance of an aneurismal sac, thickly studded with atheromatous deposit. On opening one of them it was almost solid, and appeared as if the tumor was composed of a number of little tumors lying close and accompanying each other. In some of them, softening had commenced in the centre; and, what appeared very remarkable, in many of the small tumors, which, so to speak, formed the large ones, the same circumstance presented itself

This, I am convinced, is the process observed in the softening of many of these glandular tumors, and that this process does not commence in the centre of the present tumor, but in the centre of the individual small tumors of which it is composed: and this does not form an objection to the well-known fact, that tumors generally commence to soften in their centre; for this, in great measure, depends on the age of the central tumors compared with those of the exterior, and also from compression, and no doubt, in many cases, from a super-secretion of fluid parts in the tumor. We are, however, much in the dark about the true nature of this softening, and are by no means acquainted with the laws which influence the change. I have not unfrequently

seen, in these tumors, certain parts only softened and broken down; and on examining them, have satisfied myself that this change had been effected in one of the smaller tumors. In the case of cancerous deposit in the lung, we have also very frequently the same arrangement; but in this case we actually are able to trace the formation of the large tumor by the accumulation of smaller ones: thus, for instance, the cancerous matter is not deposited in one spot, and so spreads from this common centre, but, on the contrary, different parts of the lung furnish a reception for this new disease, and, by their approximation, constitute a large mass of "cancer of the lung." In the two cases which I have the honour of forwarding you, a similar condition was observed, and our museums furnish specimens of a like nature.

I am afraid that I have encroached already too much on your valuable pages, therefore shall conclude for the present; and if you consider my communication of sufficient importance, shall be most happy to furnish you with some other cases.—I am, sir,

Your obedient servant,

J. B., M.D.

Dublin, Sept. 27, 1839.

MEDICAL GAZETTE.

Saturday, October 5, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

A FEW WORDS MORE TO PUPILS.

In our last article we endeavoured to show our younger readers, that much as the healing art depends on the administration of drugs, and the precepts of hygiene, something more is wanting to make the perfect, or even the tolerable practitioner. This something is a good deportment, without which, and a good temper, the most shining abilities will often be the source of little satisfaction to their possessor. It might seem a work of supercrogation to state, that a medical practitioner ought to have a decent manner, did we not see this essential point so frequently and so grossly overlooked by the friends of the young aspirants to our profession.

When the impartial observer gazes with mute astonishment on the unpolished manner, and wilfully uncouth dress, and hears the slang language of certain students, he is immediately convinced that the unfortunate persons before him are suffering under the influence of a distorted ambition, and that their models of life and conduct, instead of being selected from the class above, are taken from some grade infinitely below them. In many instances, no doubt, the mistaken sporting student wishes us to suppose that this rough arillus is only superinduced over the natural amenity of his habits, and that he is really a gentlemanly young surgeon, though acting a Pickwickian sawbones. But, alas! a censorious world will too often cry out with Martial—

"Pauper videri Cinna vult, et est pauper*,"

In such cases the motive savours of the "pride which apes humility," and the mimic would be mortified if he knew the extreme success of his performance. In other instances, the strange exhibition is only a consequence of the imitative faculty natural to man, but so foolishly displayed as to border on the results of simple fatuity.

But we will omit, at least for the present, all further discussion of this and similar points, however important, and give a few hints on the subjects more strictly appertaining to medical studies.

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* A most remarkable instance of this successful aping of vulgarity by a congenial mind was recorded in our journal about two years ago. A young man of fortune, who habitually associated with his grooms, and dressed as one of them, was taken to be the character he played by the landlord of an inn he frequented; and this theatric illusion lasted two years. The young man died of drinking.—MED. GAZ. vol. xxi. p. 547.

The most obvious, the most necessary, and the most neglected of all rules, is—*let application be steady and regular.* Not only will a greater number of hours be thus assuredly gained for study, but those that are thus employed will be made more profitable. Thus, six hours' study daily for ten days is far more useful than ten hours daily for six days; for though arithmetically they come to the same thing, their teaching power is very different. In the former case the fresh and elastic mind grasps the subject presented to it with all its energies; in the latter, the wearied and flagging attention is ever retreating from the topic forced upon it, and what is nominally study is perhaps more than half dozing or reverie.

As the second rule, we should counsel a very scrupulous attendance on lectures: we much question if many students who have observed this precept have been plucked, or even passed discreditably. Should notes be taken at lectures? Dr. Young is of opinion that where two courses of the same are kind to be attended, it will seldom be advisable to take notes of the first one; so that the mind may be wholly devoted to following and comprehending the lecturer. Perhaps, when only one course is attended, the best plan for a diligent hearer will be to take down only the heads of the lecture; or, if he has a tolerable memory, he will find that this may be done to greater advantage after the lecture; and a few attempts will soon improve his power of recollection. To taking notes of the whole lecture we may apply what Dr. Young says of taking them in short-hand, that "it converts the writer into a mere machine*;" the gist of the question is lost in the details; or, as the old saw has it, we cannot see the wood for the trees.

To read up to lectures is absolutely requisite. On two of the most essential subjects, the practice of physic and of surgery, the longest course cannot be considered as more than a sketch to be filled up by the zealous student; and it is well to compare the illustrious dead with the successful living, and know what is counselled in other countries by the great masters of our art.

It must be confessed that what we here advise cannot be done, without unusual powers of exertion, by those who are limited to the minimum of two years and a half; but this is merely a demonstration, if such were wanting, that this period, partly occupied as it is with the study of the ancillary sciences, is insufficient for the practical teaching of our profession.

We are ready to acknowledge also that lectures form by themselves too meagre a system of teaching—a skeleton that wants vitality. Mr. Hamilton, the teacher of languages, says that in his schools boys are taught, while in ordinary ones they are only told to learn. Yet in the most careless academy the boy is taught Horace and Virgil on a more effective system than that on which the pupil learns the practice of physic in our medical schools. He is not merely lectured upon the ancient poets, but made to go through them bit by bit, and show, in some rude fashion, that he understands what he is doing. Now if it shall ever be thought worth while to teach anatomy and physic as accurately as Virgil and Horace, the same plan will be adopted. The pupils will go through the details of anatomy before their teacher, step by step, and lad by lad; and they will treat diseases in the chambers of the sick under the inspection of their instructor and his assistants. Something of the kind is done by the medical tutors, or grinders; but instead of its being hurried over in the feverish manner of their establishments, we would have it quiet, cool, unembarrassed,

* Medical Literature, 2d edit. p. 13.

and prolonged. The anatomy, too, would be illustrated in our scheme by dissections performed by the pupil before the eyes of his teacher, in a manner much more regular and methodical than is at present practised.

Meantime, until this happier era arrives, the student will do well to supply the place of this genuine teaching as well as he can. If he is so fortunate as to have a diligent friend, their reciprocal examinations will be of immense utility; and it is possible that, under favourable circumstances, a class for mutual instruction might be formed. The practice of physic will be learned, in part, by attending the sick poor at their own houses. Such cases are easily procured, but it must be allowed that the pupil's attendance upon them is less satisfactory and less instructive than if his visits were under the tutelage of an experienced practitioner.

It is almost unnecessary to remind the student of a fact which has so often been repeated—that in the practice of surgery he must not expect to meet very frequently with great operations, or striking cases. The majority, indeed, of those whom we are now addressing, will hardly ever perform lithotomy, or remove a limb with the knife; but the minor operations will be their daily work, and their daily bread. We almost feel inclined to repeat the anecdote which we gave on a former occasion, of the foot which, when cleverly bandaged on the continent, walked with ease, but when brought back to England and ill bandaged, could walk no longer. Here is a point well worth attention. Even bleeding is not always performed with the utmost skill; and the student is, perhaps, sometimes perplexed by finding that the veins at the bend of the arm do not correspond with the theoretic standard; the variety of distribution being here considerable. Even the application of leeches, trifling as it may seem, is not without its niceties; and the artifices by which they may sometimes be made to bite when reluctant, are worth attention in practice, though they might not cut a great figure in a dissertation. We will mention only two points more—the treatment of old sores, and introducing the catheter, as among those subjects of lesser surgery which it would seem impossible to have passed over, and yet of which the student who has just got through his examination, is, unfortunately for himself and the public, sometimes practically ignorant.

The study of physiology to a certain extent is absolutely necessary, for without it there is no rational practice of physic. All morbid signs depend for their interpretation on our previous knowledge of the healthy ones. Thus a pulse at 96 is known to be indicative of disease, by our foregone conclusion that 72, or thereabouts, is the pulse of health. The tongue, the skin, and the excretions, can be rightly judged of by him alone who is acquainted with their normal state, and knows, at the same time, what numerous varieties are consistent with tolerable health. But physiology has become so vast and illimitable a science, that the facts immediately available for practicable purposes constitute its smallest portion. It now extends it sway over the whole domain of animal and vegetable life; and a great part of its facts are rather laid up, in the hope of future use, than of immediate profit to the practitioner. Hence, the student limited in means, and confined to the curriculum of two years and a half, must content himself with a scanty taste of this most interesting branch of knowledge. Nay, even those who can afford to dedicate double this time to their education, will find that they cannot devote a sufficient period to physiology, without injustice to their other pursuits. Those who have unlimited time at their disposal, or who have finished their education, without

being obliged to begin practice immediately, may yield to its fascinations, if reputation rather than gain is their goal. The same advice will apply, with still greater force, to microscopic investigations, which are almost solely adapted for those who follow physic as a science rather than a profession.

Of chemistry, botany, and medical jurisprudence, we shall say nothing on the present occasion, excepting that the complete study of any one of them would require as much time as the majority of those whom we now address have to bestow on the whole curriculum. Yet some knowledge of them is required as well in a practical point of view as to maintain the position of the practitioner in society, and prevent his sinking into the rank of a drug-distributing artisan. Our younger readers will have ample opportunities of observing that in social intercourse a constant examination of medical practitioners is going on, and that it will not be prudent in them on leaving the Hall to forget immediately how sulphate of quinine is made. The pupil who is plucked at Blackfriars for not knowing the temperatures of a warm bath, and freezing water, will be stared at over the dinner table if he fails there in the same way.

To conclude, we would recommend the student to follow Cicero's advice, and strive for the first grade of excellence, but to be content if he attains the second.

CLINICAL LECTURES ON OPHTHALMIA.

By M. Velpeau.

Reported for this Journal, by
J. Henry Bennet, B.L. & B.S.
Sorbon.

SEQUELÆ AND COMPLICATIONS OF KERATITIS.

Ulcers of the cornea. — Different modes of treatment.—Necessity of first curing the inflammation.—The cicatrix liable to be rendered opaque by preparations of lead.—Remarks on cauterization.—Necessity of avoiding this when there is acute inflammation.—Delicacy of the operation.—Excision of the injected vessels.—Mode of effecting this.—Perforation and fistulæ of the cornea.

Two causes have hitherto contributed to prevent the treatment of ulcers of the cornea being properly understood; first, their having always been considered apart from the inflammatory affection which has caused them, or by which they are accompanied, and secondly, the modifications which they present not having been generally recognized. This manner of viewing ulceration of the cornea has given rise to ideas respecting the treatment of such ulcers which ought not to pass unrefuted. Thus many practitioners consider it advisable to treat these lesions by direct cauterisation, or by the excision of the vascular filaments which are distributed to them. Such measures are sometimes useful, it is true, but not when employed in every kind of ulcer, and in every stage of the affection. Those who indiscriminately advise this plan of treatment, seem not to be aware that an ulcer nearly always arises from keratitis, and that, consequently, if we wish to cure the ulcer, we must first cure the inflammatory affection of the cornea. There are, however, some surgeons, such as Mr. Lawrence, who disapprove of cauterization and excision during the acute period of the inflammation, and recommend antiphlogistic measures to be adopted. Scarpa may be named as one of those who place the greatest reliance on excision, &c.

Ulcers of the cornea often disappear, even when abandoned to nature, and oftener still under the influence of the treatment calculated to remove the keratitis. As, however, they do not always yield so easily, it is necessary that you should be acquainted with those remedial agents which are more especially directed against them.

When ulceration of the cornea is recent, and accompanied by keratitis, the presence of which is indicated by the vascularity of the sclerotica and conjunctiva, the first thing to be done is to cure the keratitis, as by doing so you generally cure the ulcer also. Should it continue, you may employ calomel in powder, a solution of the sulphate of zinc or of the nitrate of silver. This last preparation is decidedly the most efficacious, and seldom fails. Sometimes, however, even this remedy proves ineffectual; in which case you must have recourse to cauterization, or to the excision of the superficial varicose vessels,

which are sometimes found around the ulcer.

The same plan of treatment is generally successful when directed against the plastic ulcer. In treating this kind of ulcer, it is well to avoid the various preparations of lead, as I have found, by experience, that small particles of that substance employed may be deposited at the bottom of the ulcer, and thus render the cicatrix more opaque. Here, again, if other measures fail, cauterisation or excision of the injected vessels may be resorted to. It is, however, useless to cauterize as long as the ulcer is covered by a layer of lymph, the surface of the cornea being then protected in the same manner as if it were covered by an eschar.

The ulcer requires no special treatment as long as the inflammation of the cornea continues. When that has abated, the astringent collyria should be employed, and if they do not succeed, as is frequently the case, recourse must be had to cauterization with the nitrate of silver. It is, indeed, in this species of ulcer that cauterization is the most efficacious. The cure, however, is seldom radical; there nearly always remains, when the ulcer is deep, a speck which impedes the functions of sight more or less, according to the position which it occupies on the cornea. Excision of the injected vessels evidently cannot be performed in these cases, as it is not by the vessels of the conjunctiva, but by those of the sclerotica, that the partial vascularity of the cornea is kept up.

When the tissue of the cornea has been entirely destroyed, and the membrane of the aqueous humour appears at the bottom of the ulcer, topical remedies have but little influence over the progress of the lesion; general measures, and especially blood-letting, being indicated. I have sometimes, however, in these cases, derived benefit from a collyrium composed of one grain of the sulphate of zinc to an ounce of water with some astringent mucilage. If the internal lamellæ of the cornea protrude, cauterization may be resorted to, but only with the greatest caution. Blisters applied over the eyelids are also occasionally useful. The remarks which I have made on the treatment of the first three species of ulcers will also apply to that of the two latter, as long as they are accompanied by acute inflammation. But when the inflammation has subsided, the treatment is no longer the same, cauterization of the ulcer being scarcely ever attended with beneficial results, and that of the incised ulcer being absolutely prejudicial. The non-success of cauterization, when directed against the incised ulcer, may be easily explained. The incised ulcer forming, as it were, a deep fissure, it is impossible to act on its entire surface with the solid nitrate of silver; and when cauterization is resorted to in any form of ulceration of the cornea, unless the entire ulcerated surface be cauterized the operation merely tends to increase the intensity of the disease. The ulcer being also nearly always situated at the circumference of the cornea, the conjunctiva is generally cauterized at the same time, and its inflammation thereby increased.

To resume: cauterization ought not to be employed when there is acute inflammation of the cornea co-existing, unless it be in those cases in which the ulcer has given rise to the inflammation, or in those in which vessels are seen arising, as it were, from the ulcerated surface. When the inflammation has subsided, cauterization is, on the contrary, in some species of ulcers, the best remedy that can be used, as it destroys the extreme sensibility which always exists when the tissue of the cornea is denuded. For such an effect, however, to be produced, the cauterization must be carefully executed, and this is attended with some difficulty. The photophobia being generally very intense, the patient forcibly contracts his eyelids, so that it is by no means easy to keep them open, or to maintain the eye in the same position. Now when you consider that the slightest motion may cause you to cauterize another portion of the cornea instead of the ulcer, and that, on the other hand, it is indispensable that the entire ulcerated surface should be cauterised, you must certainly agree with me that the operation, slight as it appears, is one which requires great nicety, to be properly performed. When cauterization is resorted to, the entire ulcerated cavity must be touched with a cone of lunar caustic, rounded at the extremity. This must be done very lightly when the ulcer is deep, in order that the remaining layers of the cornea may not be destroyed. Some tepid water must then be poured over the eye, before the patient is allowed to close his eyelids, to prevent the caustic acting on the surrounding tissue. When the cauterization has been effectually performed, the severe pain which the patient at first feels soon subsides, and he then suffers much less than he did before the cauterization. On the third or fourth day the photophobia and epiphora generally return, owing to the falling of the small eschar which is formed, and it is sometimes necessary to repeat the cauterization two or three times.

The only plan of treatment, besides cauterization, which I have mentioned as being specially directed against ulcers of

the cornea, is the excision of the injected vessels. Excision has been often resorted to when it ought not to have been employed, and having then proved rather detrimental than otherwise, has been entirely rejected by most practitioners. Though of little or no use when the vascularization of the cornea is supplied by the vessels of the sclerotica, it may be attended with beneficial results in superficial keratitis, accompanied by inflammation of the conjunctiva, and by injection of the superficial vessels of the inflamed membrane. The vessels must be seized with a small pair of forceps, and are then excised with ease. Sometimes, when the cornea is covered with small ulcers, the principal vascular filaments are given off from the conjunctiva, in which case their excision is indicated. Some authors have proposed the excision of a circular portion of the conjunctiva. This proposal, though favourably received by a few practitioners, has not met with the same reception from others. The remarks I have just made will equally well apply in this instance. If the keratitis is kept up by the conjunctival vessels, excision of a portion of the conjunctiva is likely to prove efficacious; but if it is kept up by the deep-seated vascular layer, the operation cannot be of much avail. You must also bear in mind that excision of a part of the vascular mucous membrane may, as I have already told you, be followed by disagreeable consequences.

Ophthalmologists have advised that the surface of the ulcer be scraped or excised, to prevent the formation of an albugo or a leucoma. This plan of treatment is evidently applicable to those ulcers only on which there exists a layer of coagulable lymph, and even then I can hardly say how far it would prove advantageous. Such an operation would also require such great manual dexterity, that I do not think many surgeons of our own times will feel inclined to perform it.

Ulcers of the cornea constitute one of the most frequent complications of keratitis; it is, therefore, of great importance that the treatment should be thoroughly understood, and I should advise you always to keep in mind the principles I have just laid down. If you adopt them in your practice, you will scarcely ever see an ulcer followed by perforation of the cornea and loss of the eye.

Perforation and fistulæ of the cornea—Hernia of the iris.

Ulceration of the cornea sometimes leads, as I have already told you, to the perforation of that membrane; but this accident is most frequently observed in the purulent ophthalmia of new born children, and in the Egyptian or genorrhœal form of purulent ophthalmia. A portion of the cornea, nearly always situated in the centre, softens, assumes a yellow tint, and rising above the level of the surrounding parts, at last bursts. The perforation is sometimes sufficiently large to allow the crystalline lens to pass; when this is not the case the tumors of the eye only escape.

It is a fact worthy of notice, that perforation of the cornea may be caused by inanition. M. Magendie found that it soon occurred in dogs, to which no nutriment was given, or that were fed on sugar. I have several times unobserved the same phenomena in patients who had been long deprived of aliment, or who had been exhausted by repeated blood-letting. In this case the symptoms which precede the perforation differ, in some respects, from those which are observed when it occurs in purulent ophthalmia. A circumscribed portion of the cornea gradually becomes opaque, then softens, for it can hardly be said to suppurate, and perforation takes place, without its having been preceeded by any rising or swelling of the membrane. As the perforation may be small, and is not always situated opposite the pupil, it is not necessarily followed by loss of sight.

Every possible measure, calculated to prevent the occurrence of such an accident, must be adopted by the medical attendant, for when it has taken place, a palliative treatment only can be employed.

Owing to the firm and resisting nature of the cornea, a perforation of that membrane may remain open during a variable period, and thus deserve the name of a fistula; fistulous openings on the cornea are, however, extremely rare, I have only met with seven or eight instances during the entire course of my practice, and they are only observed when the perforation occupies the central portion of the membrane. Indeed, it is only in this region that the opening can, owing to the absence of the iris, remain free. One of the most remarkable cases of this kind that I have seen, was that of a young girl affected with hydropthalmia. The cornea being greatly distended paracentesis was performed, and the puncture remained fistulous during eighteen days. I also remember another case in which the perforation, caused by inanition, remained fistulous during three weeks.

Generally speaking, after perforation of the cornea, the iris being pushed forward, either simply closes the opening, or otherwise projects, so as to form a small tumor on the outer surface of the cornea. In some instances it is not the iris but the vitreous humour which protrudes; and

when this is the case, the tumour presents the appearance of a small transparent vesicle.

Various names have been given to the hernia or prolapsus of the iris; thus it has been alternately denominated, *myocephalon, clavus, staphyloma of the iris*, &c. In the days of Galen, names were coined to represent the slightest peculiarity observed in a disease. The cause of this extreme diversity of nomenclature is partly to be found in the fact that medicine was then, in a great measure, in the hands of specialists, and when a man of powerful intellect is shut up in a small circle, his mind soon feels the want of aliment, and he, consequently, endeavours to extend the limits which are traced around him. Many plans of treatment are recommended against this affection, most of which are by no means so efficacious as those with whom they originated supposed them to be. Belladonna has been much lauded by some practitioners; as, however, it can only be useful when the prolapsus is quite recent, and when no adherence has yet been formed between the iris and the cornea, its utility becomes very restricted. The action of belladonna is purely mechanical; by dilating the membrane, it may, if the perforation be a certain distance from the circumference of the cornea, draw out of the opening that portion of the iris which protrudes. When the hernia of the iris passes the level of the cornea, it becomes a source of irritation to the eyelids, owing to the continual friction that takes place, and may occasion an exacerbation of the inflammation of the cornea, or its renewal, if it has been previously subdued. The exposed portion of the iris also often becomes the seat of great irritation, and gives rise to vegetations of various forms. When there is great inflammation existing, emollients and antiphlogistics should be employed; if, on the contrary, there be but little inflammation, the most efficacious plan of treatment which can be adopted is cauterization with the nitrate of silver: great care must be taken, in performing this slight operation, not to cauterize the cornea or the conjunctiva, as the inflammation would be thereby much increased. When the cauterization is properly executed, the patients generally feel great relief; but as it is extremely difficult to avoid injuring other parts of the eye, I would advise you only to resort to cauterization when it is indispensable. The astringent collyria usually employed in ophthalmiæ, may sometimes be used successfully. In one or two instances, in which I had prognosticated an aggravation of the malady, unless cauterization were resorted to, the patients got well in the course of a few months, although astringent collyria only had been employed. Since then I have, several times, allowed the disease to take its course, without attempting to cauterize, and the patients have likewise got well. You see, therefore, that we may occasionally temporize when the ophthalmia is slight, and there is no fear of suppuration and sloughing of the cornea. This, however, only applies to cases in which the perforation of the cornea is small; when it is large, and the prolapsus of the iris is considerable, cauterization must be resorted to as soon as the inflammation has subsided.

LUNATIC ASYLUM OF ABERDEEN.

REPORT FOR THE YEAR ENDING 30TH APRIL, 1839.

[*For the London Medical Gazette.*]

TABLE I.

OF THE NUMBER OF PATIENTS ADMITTED DURING THE YEAR.

Number of Patients in the Asylum 1st May, 1838 . . .		116
,, Admitted between 1st May, 1838, and 1st of May, 1839 .		53
		169
Whereof were considered curable (of the former number), .	13	
Do. (of the latter number),	22	
Total number of supposed curable cases during the year, .	35	

TABLE II.

OF RESULTS.

Dismissed between 1st May, 1838, & 1st May, 1839. Cured, .		20
Do. do. do. Improved,		7
Do. do. Unimproved,		2
Dead, ...		14
Total number removed from the Asylum during the year, .		43
,, remaining in the Asylum 1st May, 1839, .		126
		169

The number of cases admitted into the Aberdeen Asylum during the last year, amounting to 53, has been larger than during any former year. This increase may be accidental; but it is more probable that insanity is not only more commonly met with in society, from the growing nature of the population, but that it is so relatively, from the operation of that law peculiar to it, with a few other dis-

cases, viz., its hereditary transmission from one generation to another. And the law just alluded to is, perhaps, stronger, in regard to insanity, than almost any other malady. As of late years much improvement has been affected (both at home and abroad) in regard to the treatment of a disease which used, at one time, to be considered beyond the reach of medical science, so there is reason to hope this improvement may continue to keep pace with its growing frequency; and thus, in the event of insanity becoming more common, it will also be more frequently cured. Considering also the gradual change taking place in the public mind, in regard to the subject of insanity in general, we confidently trust that, ere long, that foolish prejudice will be got rid of, which, by leading, in many instances, the friends as well as the patients to conceal the malady as long as possible even from the physician, throws one of the greatest barriers in the way of the recovery of the insane; the early and curable stage being allowed to pass without any attempt at rational treatment, or, at best, under the trial of ill-directed and inefficient measures.

TABLE III.

EXHIBITING THE AGES OF THE PATIENTS ADMITTED DURING THE YEAR.

	Males.	Females.	Total.
Under 10 years,	1	0	1
From 10 to 19,	1	2	3
„ 20 „ 29,	7	7	14
„ 30 „ 39,	8	5	13
„ 40 „ 49,	3	4	7
„ 50 „ 59,	3	9	12
„ 60 „ 69,	2	1	3
	25	28	53

The first in the preceding table was a boy of only eight years of age, who, along with spectral illusions, exhibited occasional fits of maniacal excitement, and laboured under such weakness of the extremities, as almost amounted to paralysis —the whole being the sequence of an attack of typhus. He, however, speedily recovered, under a course of tonics, combined with sedatives.

Several of those who occupy the opposite extremity of the scale were admitted in a hopeless state of fatuity, conjoined with palsy.

Of the intermediate ages, the largest number was between twenty and forty—a period during which the minds of individuals are generally most agitated by the anxieties and struggles of life,—whereby any latent predisposition to the disease is roused into action.

The disease has assumed its various modifications in the proportions seen in the following table:—

TABLE IV.

FORM OF THE DISEASE IN THE CASES ADMITTED.

	Males.	Females.	Total.
Mania,	5	8	13
Monomania, *with excitement*,	7	7	14
Monomania, *with depression*,	5	8	13
Dementia & Fatuity,	7	5	12
Moral Insanity,	1	0	1
	25	28	53

Thus we find that the largest number is of the class styled monomaniacs, although not always in the strictest sense of that term; for when a single faculty of the mind is perverted, the exercise of the judgment is seldom left perfectly free on other subjects: so that the correctness of that view of insanity which renders it necessary to prove that a criminal action committed by a person labouring under a single delusion—a monomaniac,—arose from the delusion in question, in order to free him from responsibility, may be doubted.

The several forms of the disease laid down in the table, offer different prospects in regard to the probability of cure. *Mania* and *Monomania, with excitement*, are most favourable, other circumstances being alike—such as the constitution of the patient, and the duration of the disease. Monomania, *with depression*, is less curable, especially when the delusions are of a religious nature, and accompanied with a propensity to suicide, or arise from a belief in supernatural influence. Delusions of the latter kind, being of a nature not to attract observation, are often entertained in secret by the patient long before they are noticed by friends,—and thus have had time to become, as it were, a part of the mental constitution. In dementia, and still more in amentia, or idiocy, recovery is all but hopeless; although by allaying unusual excitement, and occupying the attention with suitable employment, considerable improvement may, in many instances, be effected; and, in particular, the propensity to violence overcome, and the disposition rendered more tractable. In the last report allusion was made to two cases of *moral insanity*, or that form of the disease which is accompanied by perversion of the *moral*, without corresponding derangement of the *intellectual* faculties. Another case has since then come under our notice, in which the means found useful in other cases of insanity effected a recovery, viz.—removal from the scenes

and persons that tended to keep up excitied feelings, together with the exercise of moral discipline, and appropriate medical treatment. Such cases are interesting in certain circumstanees, from their medieo legal bearing on responsibility.

Causes inducing the disease in the cases admitted.

We have endeavoured to exhibit in the next table (No. 5) a connected view of the causes which induced the disease in those admitted within the year; although it must be allowed that every such attempt is necessarily imperfect, from the difficulty of acquiring full information in regard to the history of each case; and of selecting, from several eoncurring causes, that one to which the greatest influence should be assigned.

TABLE V.

	Males.	Fem.	Total.
Hereditary predisposition.—Exeiting cause various, . .	6	4	10
Former attack. — Exciting cause various,	4	4	8
Highly scrofulous constitution. — Do. Do.	2	2	4
Child-birth, and other sourees of uterine irritation, . .	0	7	7
Overstrained mental application, . .	1	0	1
Perverted and overstrained devotion,	1	2	3
Poverty, grief, and causes of domestic disquietude, . .	1	4	5
Previous disease of the brain, from apoplexy, typhus, &c. .	3	2	5
Intemperance in the use of ardent spirits, .	4	1	5
Unknown, . .	3	2	5
	25	28	53

It will be observed in how large a proportion the disease was *constitutional*; and that while some of the causes were of a *physical*, others were of a *moral* eharacter,—both being often combined in the same person, and conducing to the same end. Bodily disorder, as indicated by furred tongue, headache, or giddiness, disorder of the stomach and bowels, whether as cause or effeet, was a very constant, if not invariable attendant on the mental disorder. We cannot, however, assert that any of these physical symptoms were in any way peculiar to, or diagnostic of, the malady in question.

Where the general health is thus impaired, grief, and such like moral causes, which, in a state of health, would be successfully struggled with, prey on the mind with a power that cannot be resisted. There is reason to believe that the threatened attack of insanity might often, in such cases, be wholly prevented, were the attention of the family physieian directed in time to the removal of what at first seems to be only a trifling bodily ailment.

Intemperanee in the use of ardent spirits was found to be the exciting cause in five of the cases. In the first stage of insanity cordials are frequently had reeourse to, in the vain hope of removing unwonted despondency, while they but too often precipitate the attack. Overstrained mental application, among men, especially when aceompanied by *anxiety*, and overstrained and perverted devotion, in females, are not unfrequent causes of insanity. But, amongst the latter class, perhaps the most frequent of all causes are uterine irritations and derangements. Fortunately, the primary disorder is often amenable to medical treatment, in whieh ease the secondary affection of the brain usually subsides; unless, from neglect, that which was funetional has assumed the eharacter of organic disease. In a few instances, the insanity was an effect of a previously diseased state of the nervous system, which had manifested itself in the way of apoplexy or palsy. The mental disorder in these cases almost invariably put on the form of dementia, or fatuity, from the first; and the patients generally betrayed a propensity to violence. It is chiefly on this latter account that, although incurable, we are obliged to admit such patients into the asylum.

Mortality during the year.

Fourteen patients died during the last year. Five died of *general palsy;* and it may be notieed that these were all male patients;—thus confirming what has been remarked so often in former reports, and what eorresponds also with the experience of other institutions, viz., that such palsy is relatively more common in men. Three died of consumption—a disease frequently met with among the inmates of an asylum. Two females, of weak constitution, sank under the exhaustion eonsequent on a violent and prolonged stage of excitement. Two died apoplectic. One died of dropsy; and one of inflammation of the lungs. In all, with one exception, (where the consent of the friends could not be obtained) an examination of the body was made after death. The morbid appearances corresponded in most respects with those noticed in former reports, and tended to confirm us in the opinion that insanity is not necessarily or essentially of an inflammatory nature in its early stage, though it rarely fails to lead to inflammation, and

its products, when it has continued long. Sometimes the most violent maniacal excitement appears in connexion with a condition of the nervous and vascular systems, in which the patient is calmed, rather than excited, by the cautious exhibition of stimulants; and which leaves, after death, no morbid appearances corresponding to the violence of the symptoms during life.

Opacity of the arachnoid, and a copious effusion of serum, sometimes milky—presenting the aspect of a gelatinous layer over the surface of the brain—were the most common of the morbid appearances; and never failed to be well marked in those who, during life, had exhibited paralytic symptoms. As regards the other organs of the body, disease of the heart, generally in the form of hypertrophy of the left ventricle, was frequently found. Such a condition of the organ must, no doubt, in some instances, have operated as a remote cause of insanity, by exciting, and otherwise interfering with, the regular distribution of the blood within the head; while, in other cases, the strong emotions of the mind, and violent muscular exertions—the result of an excited state of the brain—may have re-acted on the heart, and the disease of the latter been in this way an effect, rather than a cause of the insanity. In one of the patients, whose delusions, during life, were of a hypochondriacal nature, the morbid appearances were instructive; for, while the traces of morbid action within the head were slight, an unusual arrangement of the viscera of the abdomen was found, the transverse arch of the colon being tied down to the rectum by a morbid adhesion, so as at all times to have interfered with the functions of the intestinal canal. The symptoms, during life, also indicated some abdominal lesion.

The following table exhibits the principal morbid appearances met with in the brain of those who died during the last year. The disease which was the *more immediate* cause of death is also noticed, and the *form* of insanity during life:—

We would next make a few remarks on the treatment of the patients.

In prosecuting this all-important department, we have kept in view these leading objects—the calming of the excited feelings of the patient, by a gentle and steady system of moral discipline, and the correction of physical disturbance in the general system, and in the brain in particular, with diversion of the mind from the train of morbid thought, by the substitution of a variety of rational and amusing occupations.

The active employment afforded by the possession of the grounds of Clerkseat, continues to answer our most sanguine expectations. We are surprised to find, from time to time, patients, before doomed to idleness, become active and useful; and in recent cases, the good effects are still more conspicuous in forwarding recovery, and improving the general bodily health. No more cheerful sight can be presented, than a number, varying from twenty to thirty, as happens every day when the weather admits of it, employed in the grounds, each in a manner suitable to his former habits, or bodily strength; the farm-servant at the spade; the gardener, as he was wont, sowing or planting; and the man of better circumstances, hoeing, raking, &c. Employment in the fields is, perhaps, the only one in which patients of all ranks can equally join, being the natural occupation of the poor, and no degradation to the rich. To ensure, however, the successful working of a system so superior to that which condemned the inmates of an asylum to a cell, or a little less narrow space in the form of an airing ground, the most constant superintendence is necessary. To allow a patient, under violent excitement, to have possession of instruments so dangerous as the tools used in agriculture, would be injustice to himself and his attendant. The active stage of excitement is, therefore, allowed to pass by, and every one is encouraged in habits of steady occupation by the *example* of others similarly engaged. The principle is always kept in view, that the ground was procured for the advantage of the patients, and we never allow what was intended for healthy exercise to become a task, believing that the truest profit to the institution and to society, is not the amount of labour accomplished, but the progress that has been made in forwarding the recovery of the patient.

When the out-of-door occupation is over for the day, or the season of the year does not admit of its being carried on, periodicals, and books of an instructive and amusing nature, are put into their hands, and are perused even by persons whose former habits would not, in other circumstances, have led to such an exercise of the mind. Instructive reading, perhaps, more than any other of the moral means of treatment, tends to divert the attention of the patient from the subjects of his hallucinations; and we would, therefore, recommend a continuance of the liberal supply of books hitherto granted.

The female patients are afforded constant occupation, in which former habits and circumstances of life are also held in view. Needle-work, knitting, washing, and laundry work, can be afforded at all times; and, by way of an agreeable diver-

TABLE VI.

No.	Sex.	Form of Insanity.	Disease which was the immediate occasion of Death.	Morbid Appearances within the Head.
1	Male.	Monomania, with excitement.	Pulmonary consumption.	Effusion of serum under arachnoid; slight congestion of blood-vessels of the brain.
2	Female.	Monomania, with depression, latterly fatuity.	Exhaustion.	Effusion of serum under arachnoid.
3	Female.	Active mania.	Apoplexy.	Great vascularity of the brain, and an effusion of serum under arachnoid, and into the ventricles.
4	Female.	Monomania, with suicidal propensity.	Pulmonary consumption, with ulceration of bowels.	No obvious morbid appearances within the head.
5	Female.	Active mania.	Exhaustion.	Minute and extensive injection of the pia-mater, and numerous bloody points in the white substance.
6	Female.	Monomania, with excitement, latterly fatuity.	Pulmonary consumption.	Remarkably pale and bloodless state of the brain.
7	Male.	Monomania, ending in fatuity.	Paralysis.	Opacity, and effusion of turbid serum beneath the arachnoid.
8	Female.	Hypochondriacal monomania.	Apoplexy.	Considerable effusion of serum under the arachnoid.
9	Male.	Mania, ending in fatuity.	Paralysis.	Appearances exactly similar to No. 7.
10	Female.	Monomania, with excitement, ending in fatuity.	Cancer uteri, with dropsy.	Nearly the same as in No. 6.
11	Male.	Mania, ending in fatuity.	Pneumonia.	Opacity of arachnoid, and atrophy of convolutions of the brain.
12	Male	Monomania, with excitement.	Paralysis.	Great effusion of serum under the arachnoid, and into the ventricles.
13	Male.	Fatuity.	Paralysis.	No examination.
14	Male.	Dementia.	Paralysis.	Great effusion of serum under the arachnoid, and in the ventricles; softening of the *septum lucidum* and *fornix;* and vascularity of *medulla oblongata* and *tuber annulare.*

sion, light gardening, a promenade in the fields, music and reading, present themselves. To those who are aware how the fatuous, and incurable as regards their state of mind, accumulate in an institution unprovided with any subsidiary establishment to which such patients might be removed, it will be sufficient, in order to show to what extent the female patients are employed, to mention, that out of a number varying from sixty to seventy, frequently only three are unemployed.

It remains that we should explain the arrangements to be adopted in the enlarged establishment. The present hall for gentlemen will be occupied by the same class as before, for which its adjoining colonnade, and excellent airing ground, well adapt it.

The present back-hall is well adapted for an intermediate class of patients, between the former and paupers, and particularly for those who require more than the usual amount of vigilance on the part of the attendants. In improving the airing ground attached to it, a delightful employment will be afforded to the patients.

The hall and work-room of the new buildings, from their size, and vicinity to each other, are adapted for the lowest class, always the most numerous in our establishment.

A similar arrangement will be adopted

in the female department of the house; but the work-room there, will, in the meantime, be used as a chapel, leaving our present chapel as a sick ward.

The range of bed-rooms in the ground-floor of the new buildings are well suited for patients who are noisy during the night; and, in point of appearance and comfort, are an immense improvement on the range of apartments formerly in use for such patients. These, with the bed-rooms in the transverse portion of the new buildings, (also constructed on an excellent plan,) will add forty sleeping apartments to the former accommodation.

In conclusion, it is important to remark that, as regards all the arrangements of an asylum, including the means of employing and amusing the inmates, it should now be held as a principle, that the public wish should be *anticipated*, and every endeavour used to divest such an institution of whatever tends to suggest the idea of a gloomy or prison-like abode. And a great step, we think, has been made towards this in our newly constructed buildings.

J. Macrobin, M.D.
W. M'Kinnon, M.D.

DIPLOMA
OF THE
ROYAL COLLEGE OF PHYSICIANS.

The Censors' Board thinking it desirable that medical students who may hereafter intend to offer themselves as candidates for the diploma of the Royal College of Physicians, London, should be made acquainted with the nature and extent of the examinations they will have to undergo, transmit to the Editor of the Medical Gazette the accompanying papers for publication. It may be necessary to add that six hours are allowed to the candidates, on separate days, to reply to each of the papers. The answers are made in writing, and in English. The candidates are afterwards subjected to a *vivâ voce* examination in each part, this latter being conducted in Latin or English, at the discretion of the Censors.

T. Mayo, M.D.
Rd. Bright, M.D.
G. Burrows, M.D.
R. B. Todd, M.D.
} Censors.

Royal College of Physicians,
Pall Mall East,
Oct. 1, 1839.

FIRST EXAMINATION.
IN PARTE PHYSIOLOGICA.
September 1839.

1. What are the muscles subservient to inspiration? and what to expiration?

2. Name the arteries which compose the circle of Willis, and state their origin, and previous course.

3. Describe the origin, course, and termination of the vas deferens.

4. What are the principal conclusions arrived at by Mr. Kiernan, relatively to the structure and functions of the liver? What are the functions of the hepatic artery; of the hepatic vein; of the portal vein, and of the capsule of Glisson, according to that anatomist?

5. State the characteristics of serous and mucous membranes, and mention the point at which a serous and a mucous membrane freely and directly communicate.

6. State the position of the kidneys, and describe their structure.

7. What is the composition of urine?

8. Describe the anatomy of the medulla oblongata, and its connection with the cerebrum and cerebellum.

9. State the origin, the distribution, and the functions of the nerves, which supply the tongue.

Translate into English.

Remedia externa si quis quærat ad leniendum Podagræ dolorem accommoda, nulla mihi hactenus cognita sunt (licèt plurima tùm in me ipso, tum in aliis expertus fuerim) præter merè Refrigerentia et Repellentia, quorum usum jam suprà docui periculo haud vacare. Et fidenter assero, multâ et longâ observatione suffultus, maximam partem eorum qui Podagrà periisse putantur, non tam ipso morbo quàm sublestâ atque indebitâ medicatione fuisse peremptos. Si quis autem Remediorum externorum, quæ pro Anodynis indubitatis habentur, virtutem probare velit, non fucum sibi faciat eadem sub declinatione paroxysmi particularis (quo tempore dolor jam sponte suâ cessarus est) applicando: quin potiùs sub initio paroxysmi ista usurpet: et statem edocebitur quàm ficulneum sit illud auxilium, quàm vana spes; cùm hæc Epithemata nocere quandoque possint: prodesse nunquam. Quâ de causâ egomet jam à multis annis nulla remedia externa adhibui. Pulticula ex pane simaligineo cùm Croco in lacte cocto, addito postea Oleo Rosaceo in pauca quantitate, mihi olim præ cæteris profuit, quæ tamen in paroxysmi initio nihil prorsus juvabat. Si igitur dolor admodum sæviat, æger rectiùs sibi consulet se in lecto continendo donec is aliquantisper remiserit, quàm Anodynis utatur: attamen haud abs re fuerit Laudani pauxillum vesperi sumere, si dolor patientiam multum vincat, aliter meliùs omittetur.—Sydenham, *Tractat. de Podagrâ.*

Translate into Latin.

[Περὶ ὑστερικῆς πνιγός.] Ἐν τῇσι λαγόσι τῶν γυναικῶν μέσῃσι ἐγκέεται ἡ μήτρη

σπλάγχνον γυναικήϊον ἄγχιστα ζωῶδες. κινέεται γὰρ ἐξ ἐωυτέης ἔνθα καὶ ἔνθα ἐπι τὰς λαγόνας· ἀτὰρ καὶ ἐς τὰ ἄνω, κατ' ἴξιν μὲν ὑπὸ τὸν χόνδρον τοῦ θώρηκος, ἐς τὰ πλάγια δὲ ἐτὶ δεξιὰ, ἢ ἐς ἀριστερὰ, ἢ ἐς ἦπαρ, ἢ σπλάγχνα, γίγνεται δὲ καὶ προπετεστέρη ἐς τὰ κάτω, καὶ ξυλλήβδην εἴπωμεν, πάντη ἐστὶ πλανώδης.—ARETÆUS, Περι αιτιων, κ.τ.λ.

SECOND EXAMINATION.

IN PARTE PATHOLOGICA.

September 1839.

1. What are the different forms of *malignant* disease?

2. What organs are most subject to the different forms respectively, and which of those organs are most frequently affected simultaneously, or in succession?

3. What are the constitutional symptoms attendant upon malignant disease?

4. State what are the chief forms and varieties of *Dropsy*, and on what functional or organic derangements they respectively depend; describing the character of the morbid changes in the various organs.

5. When *Hæmorrhage* takes place by the mouth, state, first, what are the different causes of such hæmorrhage, and secondly, how we can discover the source from which it comes.

6. Enumerate the different deposits which separate from the urine spontaneously in disease.

7. State by what signs, either physical or chemical, these various deposits are distinguished, and what indications they afford as to the seat and nature of disease.

8. In what states of the body, and from what causes, does *Paralysis* occur suddenly, and in what states of body, or from what causes, does it take place gradually?

9. Describe both forms of paralysis in their approach and progress, and state the prognosis in each.

10. What are the causes of *Dysentery*?

11. Describe the symptoms of dysentery, both acute and chronic.

Translate into English.

Dolores, qui menstruis instantibus, vel fluentibus oriuntur, tuto leniantur opio. Itaque mulieres, quæ illis opportunæ sunt, debeat semper in promptu habere semigranum vel granum opii, sumendum protinus ut dolor ingruat et, si opus fuerit, semel aut bis, interposita semihorâ, repetendum. Neque opium, hoc modo datum, purgationem istam cohibuit, aut omnino perturbavit. Quodsi a stomacho ægre fertur, commode infunditur in alvum. Quinetiam tinctura opii ventri illita vi anodyna non fuit destituta. Lavatio tepida et vapor aquæ calidæ naturalibus exceptus per paucos dies ante menstruorum accessionem non contemnendo fuerunt auxilio; nec non utiles fuerunt aquæ Bathonicæ.—HEBERDEN, *Commentar.*

Translate into Latin.

Ἐς δε τα ἐσχατα νουσηματα ἄι ἐσχαται θεραπειαι ες ακριβιην κρατισται.

Ὁκου μεν ουν κατοξυ το νουσημα, ἀυτικα τους ἐσχατους πονους εχει, καὶ τῃ ἐσχατως λεπτοτατῃ διαιτῃ αναγκαιον χρέεσθαι.—HIPPOC. *Aphor.*

THIRD EXAMINATION.

IN PARTE THERAPEUTICA.

September 1839.

1. WHAT is meant by a degree of temperature upon Fahrenheit's scale? What number of degrees upon the Centigrade and Reaumur's scale correspond with 50° Fahrenheit?

2. Describe the method of preparing Antimonii Potassio-tartras, (Pharmacopœia Londinensis.) Explain the chemical changes which occur during the process. What is the chemical composition of this salt in the crystallized state?

3. How is the Liquor Potassæ Arsenitis prepared? What is the strength of the solution, and the usual dose? How may the presence of arsenious acid in animal fluids be detected?

4. Give an account of the treatment of remittent fever in children.

5. Describe the plan of treatment in dysentery.

6. Describe the various methods of treating chorea.

7. What are the means for restoring suspended animation by drowning, and what precautions should be adopted in the employment of such means?

8. In what point does the treatment of bronchitis differ from that of pneumonia?

Translate into English.

Animadvertis in Oribasio curationem (Epilepsiæ) evacuantibus atque corroborantibus maxime niti; quam Medici quidam judicio minus valentes non modo inidoneam, sed secum discordantem existimarunt: multumque sane error iste obtinuit, ut cum medicus alia ex his adhibeat, alia necessario damnare videatur. Ab experientiâ docemur, utrorumque usum ita parum repugnantem esse, ut nihil magis rationi conveniat; ac persæpe, non modo in hoc cæterisque capitis morbis, sed etiam in variis Febrium generibus, requiri.—FREIND. *Historia Medici n*

Translate into Latin.

Νωτιας. Ριγος καὶ πυρετος, καὶ βηξ, καὶ δυσπνοια λαμβανέι καὶ το σιαλον πτυει χλω

ρον· εστι δε ὅτε καὶ ὕφαιμον, καὶ πονέει μαλιστα το μετα φρενον, καὶ τους βουβωνας. καὶ ἡμερη τριτη ἢ τεταρτη ουρέει αιματωδες. καὶ αποθνησκει ἑβδομαιος.—HIPPOCRATES, περι νουσων.

EPILEPSY FROM TAPE-WORM.

Mademoiselle O., aged 27, and of a strong constitution, had enjoyed good health up to September 1838. On the 19th, after taking a hearty supper, she went to bed, and slept soundly. About 11 o'clock, her father found her without consciousness, with her mouth drawn to one side, and frothy, and making efforts to vomit. Her eyes were haggard, and dulness was the general expression of the features; the complexion was of a deep red. As the absence of paralysis made it probable that it was a first attack of epilepsy, with congestion of the brain, the only measures adopted were the application of sinapisms to different parts of the lower extremities, the encouragement of the vomiting, and the exhibition of an antispasmodic potion and a clyster containing assafœtida. The intellect was extremely dull during the night; but in the morning Mademoiselle O. was very well.

The patient having stated that for the last four years she had very often voided small worms, which, according to her description, seemed to be oxyuri, injections were prescribed of salt water into the rectum, and some ounces of castor oil were taken by the mouth. On the 28th of February, 1839, the patient had a similar attack, but more severe.

The next day, at 10 in the evening, there was a fresh fit, which ceased for a short time, but reappeared at 2 A.M. The convulsions were stronger than ever; and the cerebral congestion imitated apoplexy, so loud and heavy was the breathing. The prescriptions were the same as before, and the patient was restored to her usual state. Mademoiselle O. having preserved some of the worms she discharged, they were found to be fragments of tænia; and two ounces of the bark of the root of the wild pomegranate-tree were prescribed, to be boiled in a pound and a half of water down to two-thirds, and to be taken at thrice. The first glassful made the patient feel the action of the medicine by sharp colic, which produced a stool attended by the expulsion of a tape-worm twelve feet and a half long, the neck and head coming away. The other doses did not expel any fragment of the worm; but the next day but one, eighteen grains of calomel brought away two enormous lumbrici. Since that time there have been no more fits.

Epilepsy, or the diseases which resemble it, is as yet but little understood; it depends on so many different affections, and these often very obscure, and it so seldom affords positive indications, that one cannot be too ready to point out the cases where the cause of the symptoms is evident, although we do not know its mode of action. Had these fits been supposed to depend on organic disease, bleedings, leeches, blisters, and moxas, would have weakened the patient, the fits would have become more frequent or more severe, and the result must have been disastrous.—*Bulletin Méd. du Midi*, and *Gaz. Méd.*

PHYSICAL SOCIETY, GUY'S HOSPITAL.

THIS Society will resume its sittings on the 5th of October next, when an introductory discourse will be delivered by the Chairman, Mr. Callaway, and a communication read by Dr. Bright.

BOOKS RECEIVED FOR REVIEW.

Cases of Chronic Hydrocephalus, or Water in the Head; with Observations, and a detail of a New and Successful Plan of Cure. By J. F. Barnard, M.R.C.S., &c.

A Challenge to Phrenologists; or Phrenology tested by Reason and Facts. By A. M., of the Middle Temple.

The Medical Miscellany, for Oct. 1839.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Oct.* 1, 1839.

Abscess	2	Fever, Typhus	3
Age and Debility	28	Hæmorrhage	1
Apoplexy	2	Heart, diseased	2
Asthma	2	Hooping Cough	1
Cancer	1	Inflammation	11
Childbirth	1	Bowels & Stomach	3
Consumption	30	Lungs and Pleura	6
Convulsions	22	Insanity	1
Dentition	6	Liver, diseased	3
Diarrhœa	1	Measles	11
Dropsy	9	Paralysis	1
Dropsy in the Chest	1	Small-pox	1
Dysentery	1	Tumor	1
Erysipelas	1	Unknown Causes	48
Fever	5		
Fever, Scarlet	11	Casualties	7

Decrease of Burials, as compared with the preceding week . . . 23

ERRATUM.—It was intended that the first short table in Dr. Bigsby's paper, in our last number, p. 15, with its explanation subjoined, should have been a note, as a specimen of the original tables made up from house to house. At present it is out of place, and stands in the way of the tabular view.

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THE

LONDON MEDICAL GAZETTE,

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WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, OCTOBER 12, 1839.

THE CROONIAN LECTURES

For 1839.

By John Clendinning, A.M. & M.D.
Of Oxford, &c.

As delivered at the Royal College of Physicians, May 15, 17, 22.

ON THE DIAGNOSIS OF DISEASE OF THE HEART.

Bronchitis.—Species and diagnostic value of abnormal cardiac sounds.—Principal signs of valvular disease.—Normal valvular sound masked by abnormal sound; case.—Relation of abnormal sounds to the systole and diastole.—Diagnosis of the particular valve diseased.—Author's view of the value of those signs.—Diffusion of abnormal cardiac sounds.—Difficulties from wide diffusion of cardiac sounds.—Difficulties from uncertain direction, &c. of cardiac sounds.—Friction sounds.—Diagnosis by complications.

4. *Bronchitis.*—Of all the concomitants and complications of morbus cordis, the most common by much, according to my observation, as numerically stated last year, is a congested and catarrhal condition of the bronchus, often extending throughout all its lobular ramifications. This complication much exceeds emphysema pulmonum and valvular disease, which I find to be the next most common concomitants, in the pectoral viscera, of cardiac muscular hypertrophy, and is, though more under control of medicine, and therefore less formidable than the latter complications, still an ingredient that adds much bitterness to the sufferings of the cardiac, in more than one way. It is, likewise, on account of its comparative frequency, one of those that most circumscribe the utility of the acoustic semeiology in cardiac diagnosis. On this point, observations laid before the College in the Croonian series for 1838 offer sufficient illustration. Suffice it now to remind my hearers, that well developed morbus cordis is rarely free from a condition of the air passages that is necessarily productive of abnormal respiratory sounds, and that the act of inspiration in particular is most frequently accompanied by catarrhal murmurs of one kind or other. If the mucous excretions be scanty, and the cough consequently be dry, or without much expectoration, we usually find murmurs of the hissing, crackling, and wheezing, or of the hoarse and snoring kinds; and if the cough be moist, and the expectoration be abundant, we have, on the contrary, some of the various humid murmurs—viz. coarse crepitation, bubbling, gurgling, &c. It is by no means rare to find the expiration accompanied by murmur as well as the inspiration, though usually less loud and prolonged. Now it is plain enough that the coincidence of inspiratory and expiratory murmurs, with obscure because feeble cardiac action, must impede very much diagnosis by the ear, to all but those whom constant use has familiarised with such difficulties. And if to the preceding we add, that in a large proportion of matured cardiac cases, an emphysematous state of the pulmonary structure exists, we shall perceive that in many instances the often useful artifice of suspending respiration will not much avail us, especially where no valvular disease exists, so as to render the character of the sounds a competent test of the heart's condition.

There can be no question, then, that the bronchitis that so commonly accompanies matured morbus cordis, is a source of much difficulty to the diagnostician; so much so, indeed, that when, in addition to a pulmonary catarrh, including the left lung, and producing breathing sounds of the whistling, or snoring, or bubbling character, and not confined to the time of

inspiration only, but extending, as I have often found them, to the expiration also; and when the præcordial portion of the pulmonary lobes is emphysematous, which likewise often happens; and when, likewise, in addition to the preceding, the action of the heart is feeble or sluggish; under such difficulties, so combined—and they must not rarely be encountered in such combination, especially amongst the necessitous classes—I have found the physical exploration generally of very uncertain value, and the auscultation of the cardiac sounds particularly, nearly quite useless.

Species and diagnostic value of abnormal cardiac sounds.—I have above noticed the principal modifications of, and circumstances connected with, the sounds of the heart, as elements in cardiac diagnosis, confining my observation to the normal valvular condition, and excluding, therefore, from consideration all varieties of a true or intrinsic character, as well as of diffusion and other extrinsic circumstances, that were not within the range of action of the unaltered valves. I have now to treat of the various modifications of cardiac sound arising out of morbid changes in the valvular tissue, otherwise of valvular disease. From my anatomical investigations already so often referred to, it appears to follow that what has been often designated simply "valvular disease," has in reality not been valvular disease only, but in truth a combination of muscular hypertrophy, with disease of a valve or valves. Though, therefore, the importance of pure valvular defect or disease, if moderate in extent, and unaccompanied by important muscular disease, or by disease of the great thoracic blood-vessels, might, I conceive, be rated rather low, as compared with the tremendous interest actually belonging to it, amid its usual complications, yet I acknowledge that little blame can attach to the practical man, who has hitherto been accustomed to regard the valvular form of disease of the heart as the great and paramount species of morbus cordis; for I fully subscribe to the general opinion, that there is no other form of heart disease of equal urgency of symptoms, or difficulty of alleviation. But to this rule I would, *ob iter*, point out as exceptions those pretty numerous cases of morbus cordis simplex, or simple muscular hypertrophy, which are distinguished by a peculiar susceptibility in the heart, of violent nocturnal palpitations, and otherwise irregular action; and which may possibly owe some portion of their distressful nature to their including, along with cardiac disease, some peculiar susceptibility in the lungs that constitutes a predisposition to the spasmodic asthma of the older pathologists. And there is further this circumstance to account for and excuse the pathologist-practitioner's exaggeration of the relative importance of cardiac valvular cases, viz. that not only are the valvular forms of heart disease easily and readily recognized, *post-mortem*, without instrumental aid, which pure hypertrophy very often is not, but even during life their recognition requires, if the heart act with any vigour, a mere smattering acquaintance with the mechanical methods of diagnosis, which cannot by any means be said of most cases of purely muscular cardiac disease.

From what has been already said, it is obvious, then, that I conceive great and peculiar importance to attach to the semeiology of valvular disease, as indicative at once of hypertrophy of the parietes, with all its formidable vital morbid conditions,—and defect at the orifices, with their inevitable inconveniences to both lesser and greater circulations.

Principal signs of valvular disease.—The principal signs of valvular disease that I have observed, as worthy of distinct description, are the following:—

1. The substitution of an abnormal sound, widely different from the sound of the normal valve, for the healthy sound of the valve.
2. The coincidence of an abnormal sound with the natural sound of a valve.
3. The absence of all valvular sound.

The principal signs of valvular disease, laid down by preceding writers, which I have not been able to satisfy myself about, and whose diagnostic value I question, if not deny, are the following, viz.

1. Excessive asthmatic distress, recurring in paroxysms more or less protracted, and marked by a darker than common coloration of the face, &c.
2. Dropsical effusions.
3. Venous pulsations.
4. Modifications of the pulse corresponding with the nature, extent, and peculiar seat of the valvular lesion. Upon each of these alleged effects and signs of valvular disease, I shall probably hereafter hazard some observations, with a view to justify my scepticism respecting their alleged diagnostic value and practical importance.

Normal valvular sound masked by abnormal sound.—My first sign of valvular disease to be noticed, is the substitution, apparent at least, if not real, of a new and abnormal sound for the natural sound. This is an event of no unfrequent occurrence, and I have met with it as arising from the following causes. 1st, as to the systolic sounds. The suppression or masking of the first sound has been effected, 1, by induration of the mitral valve, and contraction with patescence of the auri-ventral or interior orifice; 2, by a condition somewhat simi-

lar of the aortic orifice and valve. The former of these valvular degenerations has been indicated by a sound accompanying the systole, and of variable character, from the softness of wheezing or blowing, to the hardness of an almost metallic clangour. The disease at the aortic opening has similar murmurs with that of the auri-ventral; so far at least as I have observed. In the case of each valve the position holds, that the character of its abnormal sounds has a complex causation, depending partly on the mechanical condition of the valves and orifices; partly on the dynamic condition of the ventricle; partly, also, probably on the crasis, mass, &c. of the blood.

If the valve have become rigid, so as without quite stopping the way, to offer considerable obstruction to the retreat of the blood into the auricle, or its advance into the aorta, during the systole, there must, if the heart act with sufficient vigour, and the blood's condition be not peculiar, be produced certain harsh and loud sounds, that would be heard probably over the whole præcordia, and sometimes in still remoter parts of the parietes of the chest. And on the other hand, assuming the like conditions of the valve and blood, but with a different condition of the heart's action, viz. an asthenic condition, a result very different may ensue, viz. instead of a hard harsh sound, a soft blowing sound, or perhaps no distinct systolic murmur at all. And the diastolic sound is subject to like complex influences and apparently capricious variations; for unless the heart propel with some vigour, and the aortics be deep and wide and flexible enough, and the aorta be sufficiently elastic, the second sound disappears altogether, to give place to an abnormal sound, or otherwise, according to circumstances.

The variations that we observe in the cardiac murmurs, under different circumstances of bodily strength and fulness, or weakness and leanness, are often very embarrassing. Examples of this are the blowing and other noises often audible in the precordia, &c. of girls, and of which nothing more than purely conjectural explanations have, so far as I know, yet been offered. But such are not peculiar to excitable females structurally sound. In protracted cases of morbus cordis, involving valvular mischief, changes of tone and other characters are observed in the abnormal sounds, under a variety of circumstances. Of this class of cases I have had an example very striking and instructive for the last eight or ten months in the infirmary. The following is a sketch of the case.

Case.—A female under forty years of age was admitted into the infirmary in September 1838, with anasarca, and bronchitic and epileptic symptoms. I was soon aware of cardiac enlargement, and at a subsequent period found that her urine was albuminous. On the 10th of October, for the first time, a loud noise was noticed all over the cardiac region; viz. a hard and almost metallic clangour accompanying both systole and diastole; the heart's action being vigorous. On the 13th the same was heard, weak at the apex, but loud over the base. On the 16th the noise had become a bellows sound, and was much abated. Soon after this, mercury was employed, and active mercularization established, and with great temporary relief, to the convulsions especially, which were suspended for some weeks in consequence. Jan. 5th, 1839: A loud clapping systolic sound heard about the apex, less clear over the base of the heart. On that day in the course of the visit several variations in the murmurs were observed. For a short interval the normal sounds only were heard somewhat obscurely; then, again, they became loud and clear, and then again often a little obscure—especially the second sound. In perfect repose the abnormal sounds disappeared almost wholly; but were at once developed by the slightest voluntary effort. Nothing was audible during perfect repose but a soft blowing sound accompanping the second sound. On the 30th the bellows sound again was so loud as wholly to supersede the second sound. Up to the end of April, the variations from soft blowing to hard bellows sound continued, the blowing sound being the predominant one in frequency of occurrence to my observation. On the 25th April, a hoarse, scraping, or rubbing like sound superseded wholly the second sound, the systole being then free from murmur. To-day, May 8, the sound is soft and blowing, and accompanies the diastole only. During the greater part of her treatment, the action of the heart has been sthenic, but temporary variations were observed in consequence of recent convulsions, or of cupping, which was necessary very frequently, to relieve head-ache, and check the epileptic spasms. The case is quite hopeless, involving, as it does, organic disease in the brain, which is probably the seat of the tumor or abscess in the occipital region, and organic disease of the heart, involving valvular defect, and was obviously on admission a hopeless case. But though offering no field for curative means except as palliatives, it has been both interesting and instructive as shewing the variability of the cardiac sounds in a certainly morbid condition of one or more valves, and especially the mitral; and under circumstances

of vascular plethora and cardiac power, favourable apparently very generally to the development of the harshest sounds the physical conditions of the valves would admit of.

This branch, then, of the mechanical semeiology, partakes, like others, and to some extent, of the uncertainty of the functional or rational signs; for though the fixed and material conditions of a morbid valvular sound be present, that sound may be wanting, because the causation of this part of the physical semeiology is complicated, and involves dynamic or vital conditions of the usual variable characters. Owing to this complexity, no doubt, of causation, and the consequent variability of action and physical effect, it must be that so little valuable information can be derived from attention to the *timbre* or *pitch* of the permanent valvular abdominal sounds; which, *à priori*, are not easily conceived to be so unimportant as, according to my experience, they are found to be in diagnostic practice.

Relation of abnormal sounds to the systole and diastole. — A feature of the cardiac murmurs, more deserving of notice than the musical character, is their relation in the order of time to the systolic and diastolic efforts.

Excluding from present consideration the friction sounds attending pericarditis, and assuming that the interior valves are functionally competent, it is obvious that an abnormal murmur accompanying the systole must be referred to some defect about the arterial valves, offering opposition to the current hurrying forward into the arteries. On the reverse, if the arterial valves offer no opposition to the ventricular gush, any systolic morbid sound must be referred to defect about the interior valves, admitting of reflux into the auricles: and with respect to the diastolic morbid sounds, it is equally clear that such irregularities must be referred to defective action of the arterial valves; which latter parts, if the sounds be loud or harsh, and constant, at least during ventricular vigorous action, must be held to be seats of grave structural lesion. I say, if the sounds be loud, or harsh, and constant, because I have not yet, either in the human subject or in experiments on animals, met, in a sound state of valvular structure, with any much more than momentary murmur, more decided than a soft blowing sound.

Diagnosis of the particular valve diseased. — A point of diagnosis of much difficulty, but, happily for practical purposes, curious rather than usefully important, is the distinction of the particular valve or valves implicated in disease—whether interior or exterior, whether on the right side or the left. It might, *à priori*, be reasonably enough supposed, that any valvular defect tending more especially to derange the lesser circulation, should be of more serious consequence than any similar morbid condition endangering only the regularity of the systemic circulation, on account of the greater susceptibility fairly attributable to the lungs and brain, from venous congestion, or, indeed, any abnormal state of humoral distribution. And it might likewise, with much likelihood, be conceived, that a defect of the interior valve (let us suppose on the left side) should be more formidable in its effects, and more conspicuous by its functional lesions or signs, than a defect of the aortic valve; for patescence of the mitral would seem to expose the pulmonary circulation *directly* to more or less of the repulsive force of the systole; whereas, in a sound state of the mitral valve, a patescent state of the aortic would probably not be apprehended to be directly or otherwise formidable to the pulmonary functions. In accordance, possibly, with these general probabilities, in some measure, considerable labour has been bestowed upon the investigation of the diagnosis of these several valvular diseases; and not without apparent success. With regard to the distinction between valves on the same side of the septum cordis, it has been held that it is practicable to obtain an accurate diagnosis by attending to the regions of the chest in which the sounds under examination are most conspicuous; and that, for example, sounds denoting disease of the aortic valve are best heard over the base of the heart, and high on the sternum, while such as denote disease of the mitral valve are best heard about the apex cordis. With respect to the opposite sides of the septum cordis, it is conceived that the valvular affections of the right side are best manifested towards the sternum and scrobiculus cordis; and those of the left side towards the opposite boundary of the cardiac region.

Author's view of the value of those signs. — With respect, however, to these means of distinguishing the diseased valve or valves, whether on the same side or not, I have no very decided opinien to offer. Having, early in my inquiries, satisfied myself that in grave chronic disease of the heart the favourite seat of the affection, in point of tissue, is the muscle, and in point of cavity is the systemic ventricle; and having, in abundance of instances, found every where the worst symptoms—such as asthma, habitual short breath, dropsy, visceral enlargements, &c. &c. — in attendance upon a state of disease not including any important or evident valvular, or orificial, or endocarditic, or pericarditic morbid

condition whatsoever, I have not been in the habit of noting with sufficient care the observations upon which any opinion respecting the value of those means of diagnosis should be grounded. I would not, at the same time, be understood to aim at undervaluing the attempts of the meritorious pathologists who have laboured in this field, by me neglected; for although for all practical purposes it is, as I imagine, in valvular cases, and at present, nearly indifferent whether we are able to diagnosticate accurately or not the particular valve or valves affected, still, in the growth and progress of medicine, from its present infancy of conjectural etiology and tentative practice, up to a maturity, possibly in the near future, of scientific principles, founded on true and ample inductions, and of practical rules deduced from adequate and genuine experience, I am sensible a time may come when the power of diagnosticating with very minute accuracy in valvular heart disease, may be of great value, and indispensable for fully successful practice.

Diffusion of abnormal cardiac sounds. — One reason I must mention for my scepticism as to the value of the means pointed out as diagnostic of the particular vavular diseases; and it is included in my next topic for observation—viz. the diffusion of the heart's abnormal sounds.

I have already, under the head of the physiological varieties of diffusion of cardiac sound, anticipated much that should otherwise be dilated on here; especially the influence of two conditions often met with in cardiac valvular cases — viz. a condensed state of the left lung, or of both lungs, and an abnormal *timbre* or *pitch* of cardiac sounds: the former circumstance tending to enlarge very much the area of diffusion, by means of the superior conductive power of the condensed lung; and the latter having a like tendency, but for a different reason—viz. the intrinsic superior facility of transmission of louder, harsher, and shriller tones.

Difficulties from wide diffusion of cardiac sound.—Now, out of these two circumstances of valvular disease, both of which are frequently present, arises much difficulty; for the sounds are heard, proceed whencesoever they may, over all parts of the præcordia, taken in the largest pathological sense, with but little difference of loudness, provided only the heart's action be sufficiently vigorous. This tendency to wide diffusion of cardiac morbid sounds, is, perhaps, the greatest obstacle that often presents itself to the useful application of the results above stated, of the inquiries of several able and deservedly distinguished pathologists, respecting the regions of the chest in which the valvular diseases producing such abnormal sounds, express themselves most distinctly. Now if there were no other obstacle, this would bs sufficient to restrict very much the diagnostician's success.

Difficulties from uncertain direction, &c. of cardiac sounds. — But I apprehend that other difficulties, still less easily surmounted, remain. Excluding from consideration humoral differences and mere variations in force of cardiac action, there are probably modifications in the manner of action of the muscular appendages of the valves, and of the circumferences of the orifices, that must affect materially the acoustic results. The normal action of the parts just named is very complicated. In order that the regular valvular play should be accomplished, a great number of minute parts, muscular fibres, and tendinous cords, divided into numerous separate groups, and very variously circumstanced as to their attachments, lines of action, and other relations, must co-operate in a fixed order, and each with a determined amount of energy. That such numerous and diversely situate agents do ordinarily act together, so as to accomplish their simple but most important purposes, is, of course, a familiar fact; but it is a wonder notwithstanding—a marvellous result of that complicated organic harmony, hard even in fancy to conceive, established by Him to whom nothing is obscure and nothing difficult. In a process, however, so complex, and depending, for its accomplishment, on conditions so minute and variable, irregularity may, it is obvious, readily happen even in the physiological state, and without decidedly transgressing the limits of health. But in the state of cardiac disease, the probabilities of anomaly in the action of the valves increase and multiply, and in proportion apparently as the functional lesions that characterize the morbid state deviate much or little from the normal standard. The natural order and proportions being infringed upon, even in a few instances, the binding power of habit is probably weakened; long associated and mutually dependent actions become more or less severed; and effective co-operation is often obstructed, and occasionally for a time even wholly suspended. Owing to interruption, such as just alluded to, of the regular actions, simultaneous or consecutive, of the columnæ carneæ, and other contractile parts governing the action of the valves and orifices, it must be that abnormal sounds are not unfrequently heard without corresponding defective anatomical conditions—harsh sounds, considered to denote valvular osseous induration, &c., but without such osseous induration; and soft sounds, supposed to im-

ply defective valvular dimensions, without great rigidity of tissue, yet arising probably from mere irregular valvular tension. Now, for a correct diagnosis of the true state of things in such cases, the data must often be wanting; especially the great datum of a knowledge of the degree of constancy, under like dynamic conditions, of those abnormal sounds. Without such knowledge, no ordinary acoustic symptoms almost would of themselves be sufficient evidence of grave valvular lesion.

Assuming the constaney of abnormal sound to be unknown, it is obvious, then, as above stated, that we might have abnormal *sounds* without abnormal *structure*, and assuming abnornal structure, it is to be expeeted that we should occasionally meet with embarrassing variations, not only in the timbre and pitch, but also in the mode of development, and thence in the extent and direetion of diffusion of those abnormal sounds; as appears, for example, to have occurred repeated in the case of Hardiman, above summarily stated.

Now under such variations in the mode, direction, and extent of the development and diffusion of the heart's morbid sounds, I am aware of no rule of semeiology sufficient to enable the practitioner to identify the structural lesions with any thing approaching to certainty and precision. Under such circumstances, the utmost that could prudently be diagnosticated, would be, that some valvular defeet, in all probability, existed; while, as to the precise nature or seat of the valvular lesion, it would often be folly to hazard a confident opinion.

Friction sounds.—One variety of abnormal sound incidental to cardiac disease remains to be noticed cursorily. I allude to the rubbing sound or harsh murmur, accompanied, when well marked, by a sensation of friction, and occurring, probably, in one stage or other of almost every case of pericarditis, in which the distended pericardial vessels relieve themselves by discharges of coagulable lymph, rather than by copious serous effusion. This sound of rough surfaces rubbing against each other is not always easily distinguished from harsh vascular sounds. Indeed, when the sensation of friction is not very distinct, I know no physical sign by which the aeute stage of pericarditis ean be confidently diagnostieated. In a good many cases I have met with sounds originating in the heart's cavities, which no ear, I am satisfied, could, without the aid of the sense of touch, or perhaps rather without what has been called by a recent ideologist, *the muscular sense*, distinguish from pericarditic murmurs. I may say further, that cases of valvular disease are occasionally met with, in which at once audible and tangible vibration, resembling rubbing sounds, occur. The occurrence of adhesive pericarditis, therefore, is a source of fallacy incidental to morbus chronicus cordis, with respect to which the observer must be on his guard, and one which might readily lead astray the young and confiding auscultator. However, the diagnosis is not very difficult, when to the mechanical signs we add, as supplementary and often corrective data, the rational signs: for in otherwise doubtful cases, we obtain the needful light from the use of the hand and other means—in feeling and tapping, and otherwise examining the state of the præcordial and other regions of the chest; by means of which we ascertain that there is tenderness in the hypochondrium, præcordial pain, uneasiness, labouring action of the heart, &c. or the reverse of all these; that there is fever, general pectoral distress, &c., or the reverse;—and by inquiring into the history of the case, we ascertain, probably, that though the patient had for months or years been subject to occasional palpitation and other cardiac symptoms, yet that the present præcordial pain, tenderness, &c. are of receut origin, and attributable to a eertain exposure, or to a rheumatie attack still in progress, or other obvious exciting causes.

Diagnosis by complications.—The next head for observation is the complications of morbus eordis, so far as the investigation of those can be expected to contribute towards elearing up the diagnosis in doubtful cases. It is plain enough that the complications of a disease, including in that term not only the coincident functional lesions which are commonly called rational signs, but the structural also,, which are more frequently termed complications, must, if sufficiently frequent, be of much importanee to diagnosis, as collateral evidence of other, and sometimes anterior and grave diseases. And of the two classes of symptoms just alluded to--viz. the merely functional or dynamic, and the structural or organic—the latter class, or what is best known by the name of complications, is, I apprehend, in most cases the more important and instructive of the two; and for this reason, namely, that it indicates mischief of a grave character in more than one important quarter, and warns us that we have not *one* simple morbid action or *single* organic disease alone to contend with.

But whatever correctness may be conceded to the observations just hazarded, in their application to grave diseases in general, there can be no doubt that with respect to morbus cordis, they are fully warranted. On this point I may, I think,

refer with confidence to my anatomical observations, submitted to my colleagues last year, in proof that for chronic disease of the heart, complication and multiplied complication is the rule, and simplicity the exception, and the rather rare exception; and that, in fact, certain complications which, when present, could be easily identified, are of such frequent occurrence as to be extensively available as signs in the diagnosis of doubtful cases. Of these complications the principal were either, 1. Pulmonic, or 2. Hepatic, or 3. Renal, or 4. Cerebral, or 5. Dropsy in one or more of its numerous forms.

Under each of these heads it will be now my duty to make some observations; and of all complicating diseases of morbus cordis, the most important by far, both in frequency and gravity, are the pulmonic, which I shall have to consider in the first place.

ON THE

ESTABLISHMENT OF HOSPITALS.

From a Lecture delivered by

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[IT was not our intention to have given any portion of the introductory lectures delivered on the opening of the medical schools, but we have been led to make the following portion, from that of Mr. Arnott, an exception, as it contains some curious information in reference to the origin of our hospitals, as well as some good observations on the use to be made of them. The first part of what follows appeared in the *Times*; to which, however, we append the conclusion of the lecture, which was omitted by that paper.]

THE establishment of a new hospital naturally creates a desire to know something of the origin of such institutions in general, and of the circumstances under which, together with their primary design of affording relief to the sick poor, there has become associated the no less desirable object of communicating that information which is applicable to the use and to the benefit of all. We are indebted for the origin of hospitals to the promulgation of that religion which it is one of the main objects of this College to encourage and support. Before the introduction of christianity hospitals were unknown. Among the most policed nations of antiquity, the Greeks and the Romans, it is in vain to seek either in their annals, or in the remains of their once proud cities, for a trace not only of hospitals such as they now exist, but of any charitable institutions for the reception of the poor, the orphan, or the sick. Neither the religion nor the philosophy of the ancients conduced to the relief of the unfortunate, while their whole system of civil polity tended to blunt those feelings of humanity which are naturally implanted in us all. The system of slavery was of itself sufficient to check every scheme of universal benevolence. Divided into freemen and slaves, the state, almost exclusively occupied with the former, took little or no account of the latter, who yet formed the great mass of the labouring population. Considered in the light of property, and subjected to the absolute will of their possessors, their treatment among the Romans was usually characterized by extreme harshness, although exceptions not unfrequently occurred which were repaid by the utmost devotion and attachment. And as in health they were left without protection, so in sickness they were often exposed to much additional suffering from the absence on their part of all legal claim to relief or support, and from the want of the sense of moral obligation on the part of their owners or of the community to provide it. In the time of the Emperors, and as late as the middle of the third century of the christian era, the rich, who did not choose to take care of their sick slaves at home, or to get rid of them by homicide, used to send them to an island on the Tiber, on which was a temple of Esculapius, and there to abandon them to their fate. This inhuman practice attracted the attention of the Emperor Claudius, and there is still extant the decree which he issued in order to arrest it, and by which it was ordained that all slaves thus abandoned should, in the event of their recovery, cease to belong to their masters, and become free—a sufficient proof that even at that time no public hospitals existed in Rome.

After the introduction of that religion which looks upon all men as equal, and which inculcates charity as a duty, its disciples at an early period contrived a scheme for the assistance of their necessitous brethren; but this did not, until the fourth century, assume the form of institutions for their reception. As the pure and benevolent system of ethics which they taught and practised became more extensively and firmly implanted in the minds of men, these charitable institutions increased in number by the piety and bounty of individuals, especially of the earlier Christian Emperors, and by the earnest and powerful exertions of the clergy; and they gradually assumed the separate distinctions which prevail at the

present day. In Constantinople, under the successors of Constantine, establishments existed for the reception of the sick, the poor, the orphan, the stranger, and the pilgrim. To all of these the term *hospitium* seems to have been applied in a generic sense, while for each was invented a name unknown to the ancient Greeks, from whose language it was derived—Nosocomium, Zenodochium, &c. The application of the term *hospitium* was evidently taken from the sense in which it was employed by the Romans. As there were then no inns for the accommodation of strangers, when in foreign countries, or at a distance from home, it was usual for travellers of that nation to be received at the houses of certain persons whom they in their turn entertained in Rome. The connexion thus established was considered an intimate one, and was styled *hospitium ; jus hospitii.* The former term was also applied to the reception of a stranger, and to the house or apartments in which he was entertained; and the Roman nobility used to erect the latter, called *hospitalia,* on the right and left ends of their houses, with separate entrances. From these our word 'hospital' is derived.

That hospitals owe their origin to the doctrines and practices of christianity, is among other proofs clearly indicated by the language of the Emperor Julian, when, in his character of Supreme Pontiff, and in the course of his attempt to restore and to reform the religion of paganism, he addresses his inferior priesthood. Alluding to the means which he believed had mostly contributed to the dissemination of the new creed, he inculcates (observes the historian), in the most persuasive manner, the duties of benevolence and hospitality, exhorts them to recommend their universal practice, and declares his intention of establishing hospitals in every city, where the poor should be received without distinction of country. "Julian (continues Gibbon) beheld with envy the wise and humane regulations of the church, and did not hesitate to avow his intention of depriving the Christians of the applause, as well as the advantages, which they had acquired by the exclusive practice of charity and benevolence." Yet, there are some who imagine that they can trace the origin of hospitals to an earlier period. They refer to the temples of Esculapius, to the *officinæ* attached to the Gymnasia and Circus Maximus, and to the distribution of medicines among the troops. With respect to the temples, there is no doubt that patients from all quarters resorted to them, but their abode was in the vicinity of, not in, the temple; and when it is considered that besides the ceremonies to which they were subjected on the part of the priests, they were likewise recommended to practise frequent ablutions, and to abstain from certain articles of diet—that the temples were usually erected in healthy situations, and that the mind was occupied by a succession of agreeable impressions, we shall probably be justified in inferring that the sick were placed in circumstances more similar to those which the invalid enjoys at the spas and watering places of modern times, than they who are inmates of a public hospital. The *officinæ* attached to the Gymnasia and Circus Maximus were merely a species of surgery, in which the disabled athletæ or the wounded gladiators were immediately attended to. And the distribution of medicines, which is known to have taken place in the Macedonian armies, from the historical fact of Alexander having once been exposed to the murmurs of his soldiery in consequence of its omission, corresponded at the utmost to that which occurs at our dispensaries. Among the Roman armies, it does not appear until the second century of our era that there was any special place assigned in the camp for the sick and wounded, and no public *valetudinarium* existed in Rome until long after this period.

With the institution of religious orders, a prominent part of whose duty it was to solicit alms to tend the sick and to succour the afflicted, the number of hospitals increased, and from this source it is ascertained that some of the oldest and largest hospitals in this and other countries of Europe have arisen. St. Bartholomew's was originally connected with a priory, so likewise was St. Thomas's, both hospitals being in existence centuries before the time of Henry VIII. La Charité arose in the same way, and the Hôtel Dieu was attached to the adjoining Cathedral of Notre Dame. Now, the very names of these establishments indicate their Christian origin. As the property and the power of the monastic orders diminished the support of many old hospitals and the foundation of new ones ceased, until after the lapse of centuries, when, from the increased wealth of the community, the growth of intelligence, and more especially the universal spread of Christian benevolence and philanthropy, these institutions have sprung up in greater numbers, and are unquestionably supported in a more Catholic spirit than at any former period of history. To our own country, and to its capital, these remarks particularly apply. Look at the hospitals instituted during the last century. There are Guy's, the Westminster, St. George's, the London, the Middlesex, the Small Pox, the Fever, the Lock, St. Luke's, and three or four Lying-in hospitals. Nor will the present century suffer by compari-

son. Many of the hospitals just mentioned have been rebuilt or enlarged, and their benefits thereby extended. New ones have been founded—I might add, floated;—the creation of a hospital on the Thames, capable of containing some hundred sick and injured seamen of all nations, being one of the most remarkable evidences of the prevalence of that admirable disposition of mind to which I have just adverted. That of the hospital with which we are more directly connected is no less so. It indicates moreover the enlightened spirit of the times, seeing that it is distinctly established and supported as well for the purpose of professional instruction as for the relief of the sick.

Originating with the Christian priesthood, often associated with the principal church of the places in which they existed, and very generally constituting a part of some religious house, it was natural that the care and management of all hospitals should primarily devolve on the clergy,—on those through whose aid and presumed powers of intercession with heaven, restoration to health was looked for and expected. Nor is it surprising that this control should have been retained during the dark ages, and even for a considerable time after the general revival of intellectual activity in the 12th century. Besides being induced by their sense of duty to assist the sick, the clergy were also the only class of men who had the ability or the means of making themselves acquainted with the Greek and Latin writers on medicine, and they were therefore probably the best qualified persons of that period for the offices which they undertook to fulfil. But when law and theology had revived,—when medicine began to make pretensions to the character of a science,—when the three professions which had been frequently united in the clerical order gradually separated, then, by degrees, efforts were made to withdraw hospitals from ecclesiastical superintendence; and it was ultimately determined that they should become secular establishments. In England, in consequence of the Reformation, this took place at an earlier period than in France. In his *éloge* of Sabatier, Percy mentions that so recently as the middle of the last century, the monks at the Hôpital de la Charité succeeded in displacing Louis, and even pretended for a time to make the other surgeons mere spectators of the operations which they conceived themselves able to perform. But it was not until a considerable time subsequently to the separation just alluded to, that the influence of hospitals upon the progress of medicine was felt—not until it had been preceded by the more ardent and successful cultivation of anatomy in the 16th and 17th centuries, and in this country, not until there had been adopted less stringent regulations with respect to the admission of pupils to these charitable institutions.

At the commencement of the last century there were but two hospitals in London for the sick and lame—St. Bartholomew's and St. Thomas's, and the governors of these wholly refused to allow the education of pupils in the one, and would only admit nine at a time in the other. They afterwards relaxed, and in somewhat more than half a century later had so completely changed their views, that they built and attached theatres to the hospitals, for the teaching of anatomy and the lecturing on surgery, which up to this time had been carried on in private establishments only. St. Thomas's had the priority in this respect, the anatomical theatre having been built there in 1768; at Bartholomew's, although Mr. Pott was appointed lecturer on surgery in 1765, an anatomical theatre was not built till 20 years afterwards. These changes, together with the ready access of pupils to the more recently-erected hospitals, had most important effects on the progress of medicine. As an evidence of this, consult the works produced on surgery since the first third of the last century—the memoirs of the French Academy, the writings of Pott, Hunter, Petit, Desault, Sabatier, Abernethy, Home, Boyer, Scarpa, Dupuytren, Cooper, Hey, Delpech, and of many minor and other living surgeons, and it cannot fail of being remarked how much of the statements, of the opinions, and of the practice of the authors, is based upon the observations made in and on the experience furnished by the hospitals to which they were respectively attached.

The influence of hospitals was sooner felt on surgery than on physic—partly from the less speculative nature of the subject—partly from the precise information furnished by anatomy being more immediately applicable, and having been rendered more speedily available to its purposes—and partly from the stimulus given to the cultivation of surgery, by the education of a number of young men, required by the exigencies of a continued state of warfare. Up to a comparatively recent period, physicians were chiefly occupied in devising, explaining, or applying some general and preconceived theory, taking little account of individual cases, except in so far as they might be illustrative of that theory. They formed their views first, and took their facts afterwards. Morgagni, many of whose cases were obtained from the great hospital at Padua, and Dr. Baillie, who was physician to St. George's Hospital, set a different example;

that example followed, the influence upon hospitals upon the progress of physic has been at least as strikingly marked within a recent period as upon that of surgery, and this change has been further aided by the effect of 25 years of peace in restoring the former to its legitimate importance in professional education.

Of the beneficial effects of hospitals on the progress of physic, I shall adduce but two examples. In the year 1816 Laennec was consulted by a young woman labouring under symptoms of disease of the heart, but whose stoutness of person rendered percussion and the application of the hand useless in aid of his inquiries into the nature of the case. On reflection, the first idea of the stethoscope presented itself to his mind, and having tried the effect of a quire of paper rolled into a kind of cylinder, and applied, the one end to the region of the heart, the other to his own ear, he was convinced that he might thus become possessed of an important means of diagnosis, and he forthwith commenced at the Hôpital Necker a series of observations, which formed the materials for his most remarkable work on mediate auscultation and the diseases of the heart and lungs. Years ago, in the deadhouse of Guy's Hospital, Dr. Richard Bright made a drawing of a diseased kidney which presented certain appearances; the drawing was put aside. Some years afterwards, when he took upon himself the duties of the clinical wards in the same hospital, two of the first cases he had to treat were of dropsy, which proved fatal. Upon examination, the same changes were observed in the kidneys, as in that already mentioned. This was the germ of that great pathological discovery which has given to Dr. Bright an European reputation, and of which the whole bearings upon the practice of medicine have not yet been thoroughly made out. Further instances I need not adduce, for the statement may be taken as correct that public hospitals have more than anything else contributed in the present century to the degree of precision which physic has attained, and have given to it more than it ever previously possessed of the character of a science.

From what has been stated it will have been inferred that the value of hospitals as schools of medicine has been for a considerable time felt and acted upon in England. But the best method of rendering available these advantages has only been pursued within a very limited period. In so far as brief remarks, made occasionally and irregularly at the bedside, constitute clinical instruction, this has probably been practised from the first admission of pupils to these institutions. But the system of taking individual cases of disease, and making them the subject of lecture, was in the first instance adopted in Holland, at Utrecht, and Leyden. Thence it extended to Pavia, Vienna, and Edinburgh, and was for a long time confined to these schools, and applied to physic only. Desault, in the Hôtel Dieu, first employed the method systematically in the teaching of surgery. In this metropolis it was, I believe, first introduced by Sir Charles Bell. In physic I do not know by whom it was primarily adopted, but it was practised by Drs. Fordyce and Wells at St. Thomas's Hospital. The regular application, however, of clinical teaching in both departments of medicine, as an essential part of education, is but of yesterday. Its advantages, and the method in which it is proposed to employ it at King's College Hospital, merit notice; but, before adverting to these, it is my duty to recollect that some of the gentlemen I address are only beginning their professional education; and that those who are in this situation, coming to a study at once novel and difficult, and of the nature of which they may probably have formed but a vague notion, are apt to be embarrassed by the number of lectures they find commencing at once, and by the diversity of subjects, all apparently of equal importance, to which they must now direct their attention. It is, I conceive, one of the objects of an introductory lecture to endeavour to dispel this feeling of perplexity, by concisely bringing before the mind of the pupil the purpose and nature of all these studies—by indicating their relations to each other, and comparative importance—and by pointing out the methods by which they are best to be cultivated.

[The learned professor then proceeded to call the attention of the gentlemen assembled to the great purposes of medical education, and the ample means which King's College afforded for the effectual pursuit of objects so important to themselves and to the community at large. With great clearness and precision he presented to his audience practical views of that course of education on which many of them were about to enter, and in which some had already made considerable progress. After dwelling upon the value of a sound preliminary education, and on the absolute necessity of a thorough acquaintance with materia medica, anatomy, and physiology, with a competent knowledge of natural philosophy, comparative anatomy, chemistry, and botany, and after much valuable advice as to the most advantageous modes of pursuing the study of those sciences, he went on to say—]

Such are the branches of medical science taught in this college—such are the means

possessed, and the methods employed, to impart it. By giving up yourselves fairly to the purpose, and by availing yourselves of the facilities which your position here offers, you may and ought to acquire a competent knowledge of medicine as a science. But to learn and become familiar with it as an art—to know how to employ it practically, something different and much more is necessary. Neither one nor all the branches together that we have been considering will teach this. Anatomy will not do so. A man may be a perfect anatomist, and yet unable to recognize the nature of an injury in the living body, or to discriminate one disease of an organ from another. Even the systematic lecturers on medicine, surgery, and midwifery, which bear more immediately on the subject, will not communicate to you this practical faculty. You may have attended the lectures sedulously—read carefully on the subjects treated of in them—be able to pass even an examination thereon with tolerable credit, and yet, when brought to the bedside, not know how to interrogate or examine a patient—be incapable of distinguishing a disease, and incompetent to determine what plan of treatment or what particular remedy is best adapted to the case before you. Systematic lectures on diseases are excellent means of conveying to the mind of the student the general truths or principles of medicine (all that observation and experience up to the present period of time has taught us to believe as true.) They are likewise useful for giving a general outline of the characters of particular affections. But the impressions received of the latter are necessarily imperfect, and sit somewhat loosely on the mind; they want the clearness, precision, and force, which the original alone can give. Those who are acquainted with diseases from description only when they come into contact with the reality do not readily recognize the objects before them, and in their embarrassment are either deprived of all power of decision, in perhaps very urgent circumstances; or, mistaking the case, they display a degree of activity and vigour which may be possibly as injurious as it is uncalled for and misapplied.

It is an imperative condition of the knowledge of our art that it should be learned on the living body; there the great masters of it have acquired their skill, and it is from that source that you must obtain those correct and enduring ideas of disease and of its treatment which are subsequently to guide you in endeavouring to emulate them. It is a disadvantage attending the acquisition of this great division of our subject that we cannot always command the opportunity of presenting for your observation the objects which we might at a particular time seek to make you acquainted with, and that we are mainly obliged to depend upon what chance may offer. Fortunately, public hospitals, by bringing together numerous instances of injury and disease, obviate much of this difficulty, by affording us a greater number and variety of examples in a given time for observation and comparison. There, also, patients are placed in circumstances and under a degree of control much more favourable than elsewhere for witnessing the course and termination of disease, for ascertaining the effects of remedies, and for investigating, in cases of fatal result, the appearances met with after death. No other institutions afford equal opportunities for acquiring a familiarity with operative surgery—not only the operations themselves, but the treatment of the cases before and afterwards. Whatever manual dexterity repeated performances of operations on the dead body may give, none of the difficulties and anxieties are felt which attend those on the living, where alone they can be truly estimated. The advantages of hospitals for the purposes of practical instruction are so justly appreciated, that it would be superfluous on my part to allude to them. We have still, however, to consider the manner in which these can be rendered most available. By merely following in his daily visits a physician or a surgeon (who is under no obligation to be communicative), you would learn something by observing how he fulfilled his duty to the sick, but that only after the expenditure of a great deal of time and labour. Now in the limited period which you can devote to your professional studies, it is most desirable that you should economize both; and it is one of the great objects of the plan of teaching called "Clinical," to effect this by facilitating the inquiries of the pupil in every way, and, above all, by teaching him how to observe, and what to observe. It will be the duty of the clinical teacher, in every case which comes before him, to point out the symptoms by which the existence of disease is to be recognised; to mark those by which the particular form of disease is to be distinguished from others which may resemble it; to indicate the circumstances on which our opinion of its degree or severity is to be founded; to state the reasons why a certain plan of treatment is adopted, and why a particular diet, particular remedies, applications, or operations, are resorted to; and, lastly, in the event of death, to describe and explain the appearances and changes observed, with their bearings, either as illustrative of the nature of disease, or of the effect of treatment. Much of the duty

of the clinical teacher may be done at the bedside, as much as may be consistent with the comfort and welfare of the patient, but a great deal can only be done, and properly done, elsewhere—in the lecture room, where we can speak more freely and fully—where, also, we can compare cases together, notice omissions or errors, if such have occurred, and discuss unsuccessful cases, from which, very frequently, both in medicine and in surgery, much instruction may be derived. In King's College Hospital both these methods will be pursued. It is intended that each of the medical officers shall in turn take upon himself for a period the duties of clinical lecturer, and during that time he will have under his care, in wards allotted for the purpose, such cases as he may select. But the other patients in the hospital will contribute to the purposes of instruction, by the bedside remarks of the attending physician or surgeon. And the same end will be kept in view in the attendance on and treatment of the out-patients.

Although the advantages of hospital practice and of clinical instruction are now fully conceded, an opinion prevails with some persons in reference to them, which, if acted upon too rigidly, tends to prevent pupils from availing themselves of these advantages during the earlier part of their studies. It is said that to derive the utmost possible benefit from them, it is necessary to possess previously a considerable amount of theoretical knowledge, and hence the expediency of deferring hospital practice until the latter part of the whole course of study. It is undoubtedly true that attendance in the wards is not so profitable to those commencing their professional education as to those who are advanced in it; but it does not, therefore, follow that the time for allowing the former to witness the actual symptoms and treatment of disease should be so long deferred. The advantages of personal observation are so great, that the student can scarcely too soon combine the reality with the description. Certainly, he may begin to do this when he has acquired some knowledge of anatomy and physiology. No doubt, at first, a great deal will be very obscure; he will not be able to account for much that he sees; he will not be able to comprehend the importance of certain symptoms, the interest of certain facts which arrest the attention of his senior fellow-pupils: Let him, however, not be discouraged, or cease from observing the facts carefully; it will frequently happen that, at a later period, when he is further advanced, they will recur to his mind, and he will then be able to analyse the various circumstances connected with them—to refer the symptoms to the cause which produced them. Further, the early association of practical observation with scientific instruction, besides leading the pupil to apply the notions he has already acquired of the form, the structure, and the uses of parts, to the recognition and explanation of disease, serves as an inducement and an encouragement to him in the pursuit of his other studies. Witnessing the application of anatomy to the diagnosis, the explanation, and the treatment of disease, he prosecutes that science with an interest and zeal which, without practical examples of its utility, is not so effectually maintained. Even in respect to those lectures which are by some considered introductory or preparatory to hospital practice, the systematic lectures on medicine and surgery, a previous acquaintance with disease and injury is most advantageous, for undoubtedly those pupils who possess this derive more benefit from these lectures than those who have it not.

But, in truth, all the parts of medicine are so closely connected with each other, that, begin with what subject you please, the study of this always presupposes a knowledge of others which can only be acquired subsequently. On these various grounds I am of opinion, that the commencement of attendance upon hospital practice should not be delayed beyond the first six months of the pupil's entrance upon his professional studies, that it should be continued during the remaining period of his education, but that the attendance should not be taken into account for his certificate until after he shall have completed his eighteenth year. It is to be regretted, that by those who possess the power of conferring the honours and the privileges of the profession no examination is made which can serve as a test of the knowledge of the pupil in the practical part of his art. Dried bones and preparations, plants, drugs, and minerals, may indeed be presented to the candidate for recognition and description; but no example of disease in the living body will be submitted to him, that the case may be examined, its nature ascertained, and the appropriate treatment laid down by him. It may be, and, no doubt, is right, that the pupil should devote a certain number of years to the study of his profession, that he should attend courses of lectures on certain subjects, and that each of these courses should not consist of less than a certain number of lectures. And, unquestionably, it is necessary that examinations should be made, in order to secure a proper knowledge of the preliminary and collateral branches of study. But that no proceeding should be adopted by which the capabilities, the fitness of the candidate for the actual performance of

the duties of his profession can be ascertained, is an omission as much to be lamented, as the causes of it are evident, and not likely to be removed. The difficulties in the way of obtaining opportunities for making the examinations might be got over, but the cost of time and labour which it would require from those who ought to conduct these, involves a sacrifice no professional man is called upon to make without adequate remuneration, and that adequate remuneration the State is not likely to grant.

In the absence of this most useful stimulus to exertion on the part of the pupil during his hospital attendance, (I mean the knowledge that he will be subjected to a practical examination,) we have thought it right to recommend certain arrangements which may in some degree supply its place, as they will most assuredly shew our sense of the great importance of the object in view.

We propose, in the first place, that the dressers and the clinical clerks, in King's College Hospital, shall be selected from among those pupils who have been most assiduous in their attendance in the wards, and who have given the most satisfactory proofs of their having profited thereby. Of the benefits to be derived from these appointments there is no question, from those who hold them being brought daily into contact with the sick and injured; from their being obliged to keep an account of their cases; from the facility they acquire in prescribing, and from the expertness they gain in the performance of many minor surgical manipulations. It is invariably found that, other circumstances being equal, the dressers derive greater profit from their hospital attendance than the other pupils; and this is still more true of the clinical clerks.

The house-surgeon we propose to elect, by examination, from among the dressers. This office in a public hospital is without exception the most advantageous that a young man can hold for acquiring a thorough knowledge of the practice of surgery. It is not merely the constant opportunities for observation which it gives him, the daily intercourse which it brings him into with the surgeons, but the hourly calls that are made for the exercise of his own judgment and abilities, and for the application of his own acquirements and skill, which give to this appointment its great value. I have never known one who had held the office but who esteemed it as the most fortunate circumstance in his educational life. Those who have had the good fortune to be placed in it generally commence the practice of their profession with a confidence in themselves, which is rarely felt but by practitioners of some years' standing.

But these appointments can be held by a limited number of pupils only; and although much is expected from the emulation they may excite, yet, to ensure attention from all, a system of interrogation on the cases before them will be applied to the pupils generally, or at least to the more advanced of them.

I have mentioned that accounts of the cases in the hospital, taken by the house-surgeons, clinical clerks, and dressers, under the supervision of the physicians and surgeons, will be kept. These case-books will be open to your inspection, an advantage to the junior pupils more especially, by furnishing them with a full and connected history, which they might not be able to obtain for themselves, and which they might wish deliberately to consider.

But this advantage should not be overrated, and the pupil continue to be satisfied with reading, hearing read, or even copying these cases. This would be neglecting the active exercise of his own powers of observation, investigation, and description, in the situation and circumstances most favourable for cultivating them. He should then, as soon as possible, take notes for himself, and only refer to the hospital books for the purpose of checking and correcting his own.

These, then, are the means by which we expect that King's College Hospital will be rendered as useful to the pupil as we trust that it will prove beneficial to the sick.

If in the course of this address it should seem that I have not dwelt in terms sufficiently recommendatory upon the sciences accessory to medicine, I may here be permitted to state, that this has not arisen from ignorance of their importance, or from insensibility to their attractions; and I beg to add, that if your inclinations and circumstances lead you to study profoundly anatomy and physiology, without reference to physic or surgery—if they equally lead you to study chemistry or botany, you have opportunities and advantages here which you may never again possess, and that each of these sciences offers a field for distinction and honours which have not been unfrequently obtained by members of our profession.

In adverting to the want of a practical examination previous to the granting of diplomas, I entirely disclaim imputing blame to any body of men. I have mentioned it as a defect, but as a defect which has a most material influence on the direction of your studies. It is not that I allege or complain that the effect of the present

system of examination is to direct too much of your thoughts to the scientific part of your profession, but that sufficient attention is not thereby ensured to the paramount object of all medical education, the acquisition of practical skill.

I trust, however, that I may have succeeded in impressing you with a conviction of its necessity, and that when the hospital is opened you will bear in mind the opinions I have now expressed, and the recommendations I have ventured to give.

ON THE SOUNDS OF RESPIRATION AND OF THE VOICE*.

By Peyton Blakiston, M.D.

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(*For the London Medical Gazette.*)

Respiration.—On applying the ear to the neck and chest of a person in health, certain sounds are heard during respiration, which vary with the region in which they are listened to.

In the trachea, a coarse hollow sound is heard during inspiration and expiration, (Tracheal respiration.)

At the upper part of the inter-scapular region, the sound during expiration is less intense than that during inspiration, and both are softer and weaker than in the trachea, (Bronchial respiration.)

At the remaining parts of the chest, the sound during expiration is scarcely perceptible, being in most cases reduced to a short puff; while the sound of inspiration is much softer and weaker than at the inter-scapular region (Vesicular respiration.)

This description of vesicular respiration differs from that of Laennec, who remarks, "en entend pendant l'inspiration et *l'expiration* un murmure très legère, mais extrêmement distinct, qui indique la pénétration de l'air dans le tissu pulmonaire, et son *expulsion*"; thus failing to observe the disproportion between the duration of the sounds of inspiration and expiration. Those persons who are in the daily habit of practising auscultation of the chest, will, however, I think, confirm the accuracy of the description here given.

I shall now endeavour to ascertain the manner in which these sounds are produced, and the causes of the variations in quality, intensity, and comparative duration, observed at different parts of the apparatus in which they are engendered.

This apparatus consists of a tube commencing at the mouth, divided and subdivided until it terminates in the air cells. During inspiration air is pressed into it by the weight of the atmosphere, and is expelled during expiration by muscular reaction, and by the resilience of the air cells and of the cartilages of the ribs. In thus passing and repassing through these tubes, the air meets with obstacles at every point where their direction is changed. Now when a current of air meets with opposing obstacles, as the wind blowing upon trees, or into a tube inclined at an angle to its direction, it is thrown into sonorous vibration, and therefore noise must be produced in the trachea and its division during respiration. This sound is not sufficiently intense to be heard until the listener places his ear in contact with the trachea; in the same manner as the noise produced by a gentle blowing on a sheet of paper is not heard until the ear be placed on the paper.

The coarse hollow sound, then, heard in the trachea, is produced by the whole air of respiration passing and repassing through this tube, and its upward and downward continuations.

At the upper part of the inter-scapular region many circumstances concur to render the sound weaker and softer than that heard in the trachea. This tube has now been divided into at least two branches, one for each lung, and hence only half of the air which enters the trachea can pass through each division; and therefore the sound generated in either of them by the friction of the air becomes proportionably weaker: and as regards the sounds similarly generated above and below this point, and respectively carried up to it by the current of inspiration and expiration, those produced in the mouth, fauces, and trachea, are weakened by divergence, and those produced in the bronchial tubes are those of one lung only, whereas the sounds generated in both lungs were carried through the trachea. Besides this, the bronchial tubes are not in actual contact with the walls of the chest, even in this spot, but are separated from them by more or less of the spongy tissue of the lungs, which, being a non-homogeneous substance, and consequently a

* Read before the British Association for the Advancement of Science, Aug. 27, 1839.

very indifferent conductor of sound, deadens and weakens the respiratory sounds in their passage from the tubes to the ear of the auscultator. I stated that the sound during expiration was less intense in this region than that during inspiration. This arises from the additional force given to the latter sound by the vesicular respiration of the intervening portion of lung just mentioned, the sound of which is chiefly confined to the time of inspiration.

When at length the ear is placed on the remaining portions of the chest, it is no longer approximated to the *sides* of the bronchial tubes, but to their vesicular *extremities*. These are so numerous (being not only spread over the periphery of the chest, but also forming the greater part of its internal substance) that only a very minute portion of the air of respiration can reach them at any one spot, and hence very little noise can be produced in them by friction; while the sound generated in the larger tubes, although confined from total divergence in the air, is amazingly weakened and softened by the extent of surface over which it is thus spread. The sounds previously heard at the sides of the bronchial tubes are here effectually prevented from reaching the ear by the great intervening mass of spongy lung. All these causes combining to weaken the respiratory sound, the maximum intensity of which in the trachea can only be heard when the ear is brought into contact with its side, it would not be surprising were no sound detected during respiration at the surface of the chest. Another force, however, is in action. As the wind bears upon it sounds which from their great distance would be otherwise inaudible, so does the current of air during inspiration carry up to the ear those sounds which are engendered in its passage, while that during expiration acts in a contrary direction: hence the sound of inspiration is distinctly heard at the surface of the chest, while that of expiration is barely perceptible.

I shall now endeavour to ascertain *where* the sound of *vesicular respiration* is produced. Sound must be generated in every part of the trachea and its divisions during respiration, but it does not follow that every portion of it should be sufficiently intense to reach the ear of the auscultator at the surface of the chest. I cannot deny that a fraction of that which is heard in vesicular respiration may be produced by the friction of air against the interior of the vesicles, or by that of one vesicle against another, or by that of the pulmonary on the costal pleura, because a slight sound is heard at the commencement of expiration when the force of resistance is at its maximum; but I contend that the *principal* part of it is not thus produced; otherwise, taking place immediately under the ear, and therefore unaffected by the direction of the current of air, it would be heard as distinctly during expiration as inspiration; nor on the other hand can it be principally formed in the mouth and fauces, otherwise it would be much strengthened by stertorous breathing, which is not found to be the case. The sonorous waves formed in these parts, in passing through tubes, the calibre of which rapidly diminishes, and the direction of which is constantly changing, would seem to be in a great measure broken and destroyed before they reach the vesicles. We seem, then, to have arrived, *par la voie d'exclusion*, at the bronchial tubes, as the parts in which the sound heard in vesicular respiration is principally generated; and this conclusion derives some confirmation from the fact that sibilous and sonorous râles, which are undoubtedly formed in these tubes, modify, and in some cases, totally mask the sounds of vesicular respiration.

When in certain diseases a portion of the lung becomes converted into a solid mass, vesicular respiration is replaced over the spot where that portion is in contact with the walls of the thorax, by bronchial respiration, as it has here been defined, coarse, with prolonged expiration. In endeavouring to account for this alteration, Laennec remarks*, "Les raisons de la respiration bronchique me paraissent assez faciles à donner. En effet, lorsque la compression ou l'engorgement du tissu pulmonaire empêche la pénétration de l'air dans les vesicles, la respiration bronchique est la seule qui ait lieu;" and Andral writes†, "Elle nous paraît dépendre de ce que l'air ne peut pas pénétrer au-delà des gros tuyaux bronchiques." Thus both writers agree in considering the bronchial tubes, which lead to the solidified lung, as the seat of the bronchial respira-

* Vol. i. p. 56; 3d Edition. Paris.
† Vol. i. p. 432; 3d Edition. Bruxelles.

tion which is heard in such cases. It must be remembered, however, that the current of air in the bronchial tubes owes its existence to the expansion of their vesicular extremities, and that when their expansibility has been destroyed by the deposition of solid matter in them, that moment the current must cease in these tubes, and with it the sound of respiration within them. Were the larger tubes sufficiently elastic to keep up a current, then, in a solidification of a whole lung, we should hear loud bronchial respiration, which is not found to be the case.

Dr. Jackson, of New York, was the first to notice prolonged expiration as a characteristic sign of bronchial respiration. He writes*, "In some commencing cases of phthisis, where the respiration is not yet truly bronchial under the clavicle, when we still hear the vesicular expansion and nought else on *inspiration*, I have discovered the bronchial sound on *expiration*. In other words, as the tubercular deposit advances, the bronchial *expiration* may be heard before the bronchial *inspiration*; it may be heard at an earlier period of the disease, and may thus become a very important sign, as making known the disease yet sooner after its origin. This circumstance is very explicable. As soon as tubercular matter is deposited, there exists a solid material around the bronchia, which will transmit the sound made by the passage of the air through these tubes; but thus early a great portion of the lung, even in the part affected (the summit), is permeable to the air, and therefore the murmur of vesicular expansion on *inspiration* entirely masks the sound of the air passing through the bronchia, which would otherwise have been transmitted through the surrounding denser medium. On expiration, however, circumstances have changed: the air, on passing through the bronchia, produces the same sound as on its entrance, and as now there is no vesicular expansion to mask it, it is easily transmitted through the diseased or condensed part to the ear of the observer." Fully acknowledging the practical value of the prolonged sound of expiration as a diagnostic sign, I cannot admit the correctness of Dr. Jackson's observation that it is heard at a period when the sound of inspiration is purely vesicular. Although it is easier to discover the presence of a sound at a time when none was previously heard, than to detect an alteration in the quality of one previously existing, yet whenever I have perceived the sound of expiration prolonged at the surface of the chest, I have at the same time found the sound of inspiration stronger and coarser than usual; in short, I have found both sounds bronchial. Neither do I think can Dr. Jackson's explanation be considered satisfactory. We cannot understand how the strong coarse sound of bronchial respiration can be masked by the softer and weaker sound of vesicular inspiration, which has in fact been shewn principally to consist of that bronchial respiration modified and weakened by divergence, and borne up to the ear by the current of air. Again, were any portion of lung to be solidified and made sufficiently homogeneous to transmit the sound of expiration, it would also transmit the coarse undiverged sound of inspiration which takes place in the same tubes.

I would submit that when bronchial respiration is heard over a solidified portion of lung, it is caused by the passing and repassing of the air through bronchial tubes leading to *healthy expansible* vesicles, and it is made sensible to the auscultator by his ear being brought into mediate contact with their sides by the solid lung.

Voice.—I shall next endeavour to discover the causes which tend to modify the sounds of the voice.

According to the researches and experiments of Professor Willis, the voice is formed in the larynx by the vibration of the vocal cords or plates when their planes are in a vertical position, being put into motion by the passage of the air from the lungs. The vocal apparatus, therefore, is a wind-instrument, consisting of a tube with membranous tongues.

It has long been noticed that *timbre*, a quality of tone of wind-instruments, depends much upon the material of which they are made. Wishing to know more upon this subject, I successively placed similarly constructed pipes of wood and of metal on the wind-chest of an organ; and I found that the tone became coarse, and buzzing, in proportion to the elasticity of the material. Having next varied the weight on the bellows, I found the coarseness of tone

* Life of Dr. Jackson, p. 129.

to increase with the force of the blast. Lastly, by making use of pipes of different degrees of thickness, but of the same material, I found that the coarseness varied inversely with the substance of the pipe. In each of these experiments the coarseness of timbre was proportionate to the degree in which the material of the pipe entered into vibration. Hence, I concluded that *the timbre of wind instruments depends upon the proportion in which the solid vibration of their material are united with those of the air within them, in the formation of the resultant undulations.* Now we can hardly conceive two kinds of undulations thus uniting in different proportions without an effect being produced on the *form* of the resultants to which they give rise; and therefore it is rendered highly probable that each timbre has its corresponding form of wave. Leaving the further consideration of this subject for another time and place, I would merely remark that a jarring must take place between the undulations of the air, and those of the material of the tube surrounding it. For when the instrument is sounded, each section of the column of air, having a tendency to spread in all directions, will produce an outward bulge in the elastic material; in the next moment reaction will take place, and an inward bulge will be produced in the same spot; but by this time (the blast continuing) the next section of air will have been forced on to this spot, and, expanding, will tend to produce an outward bulge in the material, and must meet and receive a jar from the inward bulge just mentioned.

The correctness of the law which I have thus deduced from experiment, is further confirmed by reference to a few facts of daily observation. The upper notes of a flute, formed by small feeble aerial vibrations, are soft and sweet; the bass notes, formed by large powerful waves, which strongly affect the material of the instrument, are coarse and buzzing. The timbre of all reed-instruments partakes more or less of this character, inasmuch as the vibrating reed communicates its motion to the solid instrument to which it is fixed, and causes it to vibrate with some force. Owing to the elasticity of their material, brass instruments give out the greatest possible coarseness of timbre. In the French horn, which is very long, this is not so much marked as in the trumpet, in which the whole column of air can be suddenly thrown into strong vibration by a quick forcible blast, and can thus be made to act powerfully on its material. A certain degree of thickness is required for a flute, in order that its tone may be sweet and clear. So when any one is desirous of imitating the tone of a brass instrument with his voice, he shapes his lips in such a manner as to make them vibrate strongly; and the moment the nose is closed, a coarse nasal twang is produced by the vibration of the nose itself, which may be felt with the finger, and which is produced by the reverberation of the aerial undulations within its cavity.

To return to the voice.

When the stethoscope is placed on the trachea of a person engaged in speaking, the voice seems to mount up the instrument, as if the speaker's mouth were placed close to the ear of the auscultator, and it has a peculiar buzzing tone, which excites a tingling sensation in his ear, (Pectoriloquy).

On placing the stethoscope at the upper part of the inter-scapular region the voice seems to issue from the spot on which it is placed, and its timbre is still coarse and buzzing, (Bronchophony).

When this instrument is placed on most other parts of the chest, no resonance or unusual quality of the voice is perceived.

It appears to me, that this alteration of the timbre of the voice in pectoriloquy and bronchophony, as compared with that which it has when heard issuing from the mouth, when the ear does not approach the neck or chest, has not been sufficiently noticed. Laennec, it is true, speaking of bronchophony, remarks*, "Son timbre a quelque chose d'analogue à celui d'un porte-voix;" but the modification which the voice undergoes in passing through a speaking trumpet has very little resemblance to the buzzing timbre of bronchophony in many cases.

In the formation of the voice, as in the notes of wind-instruments, two kinds of undulation are exercised—those of the air which passes through the larynx during expiration, and those which are communicated to the trachea by the vocal plates; and, according to what has been proved in regard to wind-instruments, the timbre of the voice

* Vol. i. p. 66; 3d Edition.

must depend upon the relative proportion between these two undulations.

When the stethoscope is applied to the trachea, the sounds generated within the latter have to pass through its substance before they can reach the ear of the auscultator, and are therefore conveyed to his ear much more freely through the solid material of the stethoscope, than through the column of air contained in it, inasmuch as all sounds are propagated much more freely through media of similar molecular construction to those in which they are generated, or to which they have, as in this case, been transferred, than through those which are differently constructed. In the sound, therefore, thus conveyed to the ear, the solid bear a greater proportion to the aerial vibrations than in that which reaches it in the ordinary way through the air, when the converse takes place. This accounts for the voice sounding coarser and more buzzing when heard through the stethoscope, than when heard issuing from the mouth of the speaker. Its sound, too, in the former case, is transmitted to the auscultator with an intensity undiminished by the divergence between the mouth of the speaker and the ear of the listener, which takes place in the latter case.

These undulations which enter into the formation of the voice have a tendency to spread, not only in the direction of the mouth, but also towards the periphery of the chest. Their progress in this direction, however, is opposed by the current of air during expiration, and by the increasing mass of spongy non-homogeneous lung. When, therefore, the voice is listened to at the upper part of the inter-scapular region, it is found to resound less than in the trachea, because the aerial vibrations have been opposed by the current of expiration between this point and the larynx, and because the spongy lung has already begun both to surround the air-tubes, to interpose itself between them and the walls of the chest, thus deadening the solid vibrations of the tubes, and more or less interfering with the transmission of sound from them to the ear.

Lastly, at the surface of the chest, between which and the larynx the *whole* current of expiration has opposed the aerial vibrations, and where a very large mass of spongy lung surrounds the air-tubes, and is interposed between them and the ear, nearly all resonance of the voice ceases.

In certain states of disease, pectoriloquy and bronchophony are heard at parts of the chest where no resonance of the voice is perceived in health; and not only does the resonance vary in different cases, but also the timbre of the voice; in some cases sounding remarkably clear, in others very coarse and buzzing, with every shade between these two extremes. The law of timbre laid down in this paper, will, I think, account for these differences. Thus, when a tuberculous cavity exists near the surface of one of the lungs, and contains but little fluid, the resonance of the voice is strong, and its timbre clear. In this case, owing to the diminished elasticity of the lung which surrounds the cavity, the current of air is lessened, and in some cases stopped, in consequence of which the aerial undulations are propagated freely into the cavity, and are there strengthened by reflection and echo; hence they predominate over the solid vibrations, and soften the timbre of the voice, while they increase its resonance. When a cavity exists, surrounded by much solidified lung, the resonance is still great, and the timbre becomes much coarser, owing to the increased force of the solid vibrations. When the lung is solidified, without containing any cavity, the resonance is usually less than in the former case, but the coarseness of tone is much increased by the same law. Much depends on the proportion between the power of the voice and the extent of solidification. When the voice is very strong it will throw a whole solidified lung into vibration, and give rise to coarse bronchophony, but this is rare. In the case of a female with medullary sarcoma of the upper half of the right lung, there was no resonance of voice, because the main tube of the lung was filled with solid and semifluid matter, so that the vibrations of the voice could not penetrate the bronchial tubes at all. The buzzing quality of the voice was most strongly marked in the case of a man in the wards of Addenbrook's Hospital, Cambridge, whose right lung was studded with lumps of chronic induration, varying in size from that of a nut to a walnut. The tingling sensation excited in the ear when it was applied to the back of the right side of his chest, during the act of speaking, was quite painful. I

will not pursue this subject further, nor will I, on this occasion, enter upon the consideration of those modifications of the voice which are observed in pleuritic effusion; I am, however, engaged in making experiments on the propagation of sound through different media, the results of which will, I trust, throw some light upon this subject.

The following conclusions may, I think, be deduced:—

1. That the respiratory sound is caused by the friction of the air against the interior of the air-passages, and that it becomes softer and weaker from the mouth towards the periphery of the lungs, owing to the divergence of sound caused by the great space over which it is spread, and to the diminution in the calibre of the air-tubes.

2. That the sound of *vesicular respiration*, confined almost entirely to the time of inspiration, is *principally* generated in the bronchial tubes, and would be scarcely perceptible to the ear at the surface of the chest, were it not borne up to it by the current of air during inspiration.

3. That the coarse respiratory sound, heard both during the inspiration and expiration over a solidified portion of lung, is generated in tubes leading to healthy expansible vesicles, and is made sensible to the ear by its being brought into immediate contact with their sides by the solid lung.

4. That the timbre of wind-instruments and of the vocal apparatus depends on the proportion in which the solid vibrations of the material of which they are made are united with those of the air within them, becoming coarser as the former predominate.

5. That in accordance with this law, the voice sounds coarser and buzzing through a stethoscope placed over the larynx, because its vibrations are propagated more freely to the ear through the solid material of the instrument (a similar medium) than through the air contained within it.

6. That the resonance of the voice diminishes from the larynx to the periphery of the chest, where it ceases, from its vibrations being gradually stifled by the opposing current of air during expiration, and by the increasing mass of spongy non-homogeneous lung.

7. That in certain diseases resonance of the voice is perceived at the surface of the chest, owing to the current of air being weakened or destroyed, and the conducting power of the lung increased; and that its timbre is altered in proportion as the propagation of one or other of its component vibrations is favoured or retarded by such morbid changes—the aerial undulations predominating in cavities, and giving rise to clear pectoriloquy, and the solid undulations predominating in solidification, and producing buzzing bronchophony.

MISCELLANEOUS CONTRIBUTIONS TO PATHOLOGY AND THERAPEUTICS.

Contribution II*.

By James Richard Smyth, M.D.

[*For the London Medical Gazette.*]

Case of chronic hydrocephalus in which the operation of tapping was practised; with remarks.

Nov. 28th, 1835.—Edward Saunders, aged 5 months, was born at the natural period of gestation, and at birth appeared to be strong and healthy. He throve well until attacked by small-pox, which occurred when he was about five weeks old. He passed through that disease pretty well; but about a fortnight or three weeks after he was seized with severe griping pains of the bowels, and inward fits, accompanied with dark slimy discharges from the bowels.

About this time, or shortly after, the child's head was first perceived to be larger than natural, and its volume has continued slowly to increase up to the present period. During the last month he has been taking occasionally a little aperient medicine. His present condition is as follows:—surface, generally, pale and chill; there is not much emaciation, but the flesh is soft and flabby; pulse regular, but frequent and weak; bowels regular, and their excretions healthy. Urine very copious. The parents state that they consider the child passes at least three pints in the twenty-four hours. He frequently makes water three or four times whilst at the breast, and he has been observed to wet five or six napkins during the course of the night. Appetite good; tongue clean; sleep disturbed by frequent startings and

* For No. 1, see Med. Gaz. Vol. xx. p. 769.

sometimes screaming: violent and frequent oscillation of the eyes, pupils *not* dilated, no vision, and senses of taste and hearing almost extinct. Cranium much enlarged; its measurement as follows:—Circumference from the forehead to occiput twenty-two inches and a half; from each meatus auditorius over the vertex, fifteen inches and a half. The coronal, sagittal, and lambdoidal sutures, are all very open, and in any of these tracts the fluctuation in the interior of the head can be easily detected by the sense of touch. There are not the slightest cerebral movements or *cerebral murmur* present. The veins of the scalp are all unusually large and apparent, and there is scarcely any hair. After having had the bowels cleared out once or twice by infusion of senna, with manna, the following powder was ordered to be taken every sixth hour.

℞. Hydrarg. Submur. gr. ½; Sacch. Alb. gr. ij. ft. pulv.

December 1st.—Has taken seven powders. Frequent slimy and greenish discharges from the bowels. The mother considers that the child does not pass so much urine since he commenced to use the powders. He is also more restless, somewhat feverish, and he has had several attacks of sickness and vomiting. In other respects no change.

Continuentur Pulveres.

4th.—Has taken eight more powders. The child has been more lively and has rested better during the last day or two; he has not screamed or started so much in sleep. The alvine excretions are still very frequent, and vary in colour from that of wet chalk to green. Pulse and skin at present pretty natural; but the mother states that the temperature of the head is changeable—that it is sometimes very hot, and at other times equally cold. Size of head unaltered, oscillations of eyes scarcely so violent; pupils as before; no sickness.

Continuentur Pulveres. Let a tea spoonful of an astringent mixture, composed of Infus. Catechu Comp., with a few drops of the tincture of opium, be taken with each.

6th.—Has taken the powders and mixture regularly since last report. The excretions from the bowels still rather frequent and greenish. Urine much less copious, considered to be natural in quantity, pulse quick and feeble, but regular, tongue clean, surface chill. Great restlessness both during the night and day, oscillation of eyes very violent, bulk of head increased fully an inch in the transverse measurement, and three-fourths of an inch in the circumferential; no anorexia.

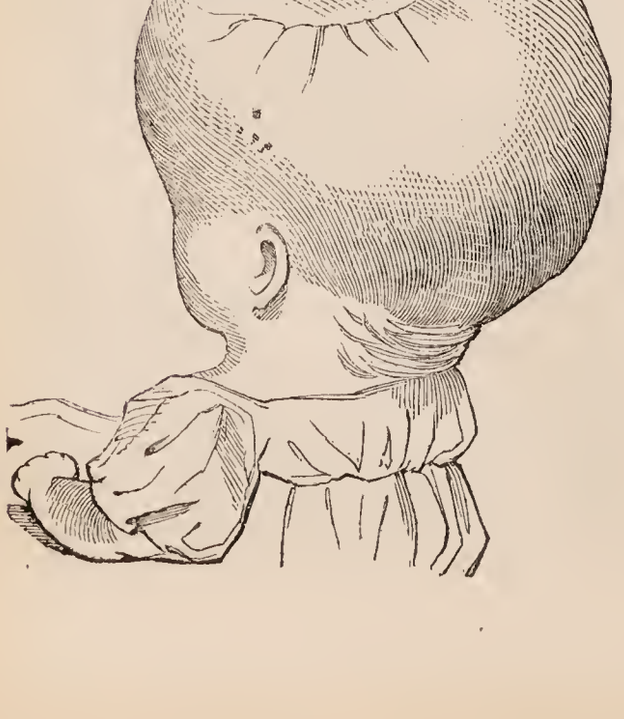
Continuentur Pulveres i. ter in die, et mistura pariter continuentur.

8th.—No appreciable change either local or general since last examination. The medicine has been used regularly, but no constitutional effects from the mercury are yet manifest.

℞ Hydrarg. Submur. gr. viij.; Sach. Alb. gr. xij. M. et divide in pulv. sex æquales quarum sumat. i. 8ta.

Fig. 1.

Fig. 2.



qq. horâ. Habeat statim balneum calidum.

9th, 5 o'clock P.M.—Has taken three of the last ordered powders. The child has had frequent attacks of retching and vomiting this morning. At present there is frequent and troublesome dry cough, with anorexia, dyspnœa, and restlessness. Surface and extremities chill; pulse quick and feeble; otherwise no change.

Let a drop of the sedative liquor of opium, with a little syrup and tincture of cardamoms, be taken immediately, and repeated every fourth hour till the retching and vomiting cease. Intermittantur pulveres, sed balneum calidum statim repetatur.

10th.—Had a fit of insensibilty last night between 11 and 12 o'clock, which lasted three quarters of an hour; while this fit was present the child was so prostrate and cold that the parents considered him dying. The cough is still rather troublesome, but the dyspnœa and attacks of vomiting are much less urgent; pulse frequent, feeble, and intermittent; alvine excretions still greenish, but more natural in quantity. Scarcely any urine passed since yesterday; no alteration in condition of head since the report of the 6th.

12th.—The general condition of the child has improved considerably during the last two days: there has been no return of insensibilty, and the dyspnœa and sickness, with the other signs of prostration, have disappeared. The urinary secretion is re-established. Pulse, skin, and excretions from the bowels, more natural; no change in condition of head.

Intermittantur omnia medicamenta.

March 15th.—Had not seen the child now for the space of three months. In all respects little or no alteration since last examination. On applying a piece of tape to the head its volume was found to be exactly the same as when last measured. Appetite good, bowels said to be regular, and excretions of a healthy appearance; diuresis still continues. The mother states that she has observed the child to make water 36 times from 6 o'clock yesterday evening, till 7 o'clock this morning. Two incisor teeth are just protruding in the lower jaw. No medicine prescribed.

April 17th.—The child has had frequent attacks of slight convulsive fits during the last fortnight, which have been chiefly confined to the eyes, muscles of the face, and the arms. The head has rather increased in size, and the hair has considerably grown during the last month. Appetite good; sleeps well; pulse pretty natural; bowels regular; diuresis as before. No medicine prescribed.

June 8th.—The size of the head continues to increase, and two small tumors have formed on its lateral and posterior part in the course of the lambdoidal suture. There is also considerable emaciation, and the child has now frequent attacks of violent and general convulsions, which alternate sometimes with fits of general tension of the body. Stupor and oscillation of eyes continual and intense; vision, pupils, and senses of hearing and of taste, as before stated; much starting and grinding of the teeth in sleep. Pulse feeble, frequent, and irregular; urine very copious and limpid; surface chill.

Seeing that we had failed to effect any improvement in the condition of the child by the mercurial treatment, and having little dependence, under the existing circumstances of disease, in any of the other alteratives generally in use, we thought it right at once to have recourse to the operation of tapping the head, and to-day, at 2 o'clock, P.M. after having placed the child on its back on its mother's lap, and the hair having been closely removed from the site of the operation, a short longitudinal incision was made with the lancet through the scalp down to the dura mater, a little to the left and about half an inch behind the anterior fontanelle, and a fine trochar and canula introduced to the lateral ventricle: 4 ounces of clear water were drawn off, a piece of lint applied to the wound, and the head tightly bound up with a flannel roller. The child immediately after the operation became faint and pale, and experienced a slight convulsive fit, which was confined to the muscles of the face and arms. No medicine prescribed.

9th, 1 o'clock P. M.—Spent a quiet night. He turned upon his face during the night, and the bandage and compress came off the head, but no water escaped from the wound. Had two severe fits of convulsions this morning. From the time the operation was performed till 12 o'clock, midnight (10 hours) the child made water only four

times. Has made water very frequently this morning; the wound of the scalp has healed, and the head seems as full and tense as before the operation was performed. Tongue clean; bowels regular; pulse undisturbed; no medicine prescribed.

13th.—No very appreciable change since the 9th, except that the head, in both measurements, appears to be from a quarter to half an inch less.

Repeated the operation this morning, in the manner already described; the trochar having been introduced about a quarter of an inch from the former puncture, six ounces of limpid water were drawn off. Towards the close of the operation, as the fluid continued to escape, the vertex became considerably concave, and the child pale and chill, but did not as before manifest any signs of convulsions. The incision in the scalp bled more freely at this operation than at the former one. After the bandage was applied to the head the child appeared endeavouring to look about him with some consciousness and surprise of countenance. The mother states that during the last day or two he is more lively, and more disposed to exercise his arms; these (what he had not before been able to do) he has once or twice raised to his mouth: otherwise no change. No medicine prescribed; but let the child be as much as possible in the open air, and let him have some beef-tea three or four times a day.

14th, 11 o'clock A.M. — Passed a quiet night. Condition of the child in all respects much the same as yesterday, except that the circulation and vital powers are rather more depressed. The vertex remains concave, and the brain collapsed as immediately after the extraction of the water. The dropsical effusion appears to have been suspended during the last 24 hours. Refuses the breast.

To have a warm bath immediately, and occasionally a little cordial medicine.

15th.—Had the bath, but no effect appeared to be produced by it. The child spent a feverish and restless night; skin, at present, hot and dry; eyes dull, and their oscillations languid. There is a slight patchy exanthema on the shoulders and front part of the neck; pulse rapid and irregular; urine scanty; bowels confined; refuses the breast, but takes a little milk and water when put into the mouth. Vertex remains concave, and brain collapsed; no grinding of the teeth, but much moaning during sleep.

℞. Hydrarg. Submur. gr. iij; Pulv. Antimon.; Sacch. Alb. aa. gr. vj. M. et divide in partes sex æquales quarum sumat. j. 6tis horis.

℞. Vin. Antim.; Vin. Ipecac. aa. ʒj.; Syrup. Simp. ʒij.; Aquæ Carui. ʒj. M. fiat mist. cujus capiat coch. parv. ij. secunda quaque horâ.

16.—Spent a better night, and is not so hot or feverish as yesterday. Exanthema still present, and vertex still concave, and brain collapsed. Two or three greenish discharges have been passed from the bowels; in other respects no change.

Continuentur medicamenta.

18th.—Considerable improvement in condition of child to-day. The pyrexial symptoms have nearly subsided, and the exanthema has entirely disappeared. Skin, pulse, and state of bowels, more natural; sleeps better, and is less disinclined to use the breast; vertex remains concave, and brain collapsed.

Continuentur medicamenta.

26th.—Little or no alteration in the condition of the child during the last eight days. The vertex is still slightly concave; the circumferential measurement of the head has increased an inch; the diuresis has returned.

Intermittantur medicamenta.

July 7th.—Head again much distended and tense, and the child has frequent fits of general convulsions; there is also much stupor and oscillation of eyes; otherwise as before; appetite good. Operated again to-day. The puncture was this time made on the right side of the longitudinal sinus, and the trochar introduced to the corresponding lateral ventricle. The scalp bled rather freely, and the child appeared, from its screams, to have experienced considerable pain during the introduction of the instrument. Six ounces of clear water were drawn off, and the roller as before applied to the head. The system did not appear in the least affected by this operation; no manifestations of either syncope or convulsions followed it. The child sucked during the time the water was escaping, and seemed altogether unconscious of what was going forward. No medicine prescribed; but let the child have a little beef-tea or arrow-root

three or four times a day, and let him be as much as possible in the open air.

We made a visit late in the evening, and were not a little surprised to find that the head was almost as full and tense as in the morning, before the operation was performed.

8th.—Spent a good night; the child is evidently improving; he is becoming lively, and the stupor and drowsiness are disappearing; there is also more freedom of motion of the head and limbs; no return of convulsive fits since yesterday; the oscillation of the eyes is still violent, but some improvement is discernible in this phenomenon; the motion of the eye is much less languid, and the duration of the writhe less prolonged. Tongue clean; pulse and skin pretty natural; bowels regular; urine not copious. He takes his beef-tea.

Continuentur remedia præscripta.

18th.—The size of the head has slightly increased during the last ten days, and the vertex is now quite distended and tense. The general health and condition of the child is much improved. The little patient is remarkably animated and lively; he now laughs frequently, and is conscious of and much pleased with being caressed. The convulsive fits have entirely ceased since 7th instant. He is very fond of being out of doors in the open air, and he seems to derive some pleasure (perhaps benefit) from pretty tight friction of the scalp with the hand, which the mother has been in the habit of performing for some time back, and which we have ordered to be continued, and repeated frequently during the day. Pulse, state of bowels, and skin, pretty natural; diuresis again present.

Punctured the head to-day again, and allowed seven ounces of clear water to escape. The child screamed loudly during the introduction of the trochar, of which he appears more acutely sensible at each succeeding puncture: some retching and vomiting followed the operation. The roller, as before, was applied to the head; no medicine prescribed; but continue the present diet and regimen, with the friction of the scalp.

21st.—Going on extremely well; no febrile movement followed the operation; the child has been playful and in high spirits during the last three days. The water has already reaccumulated in the head, which is now quite full and tense. In the manifest improvement, however, of the general health, the condition of the brain has obviously much participated. The insensibility and sleepiness, and every other indication of cerebral oppression which hitherto existed, have entirely disappeared. The child is now very vigilant and can exercise his senses; he listens to every sound, particularly that of the voice, with remarkable attention, and turns his eyes towards the direction whence it proceeds. The eyes are more steady, and with the countenance altogether more lively and intelligent. Pupils as before *not* dilated, but, if any thing, slightly contracted and quickly obedient to the light, to the presence of which the mother thinks the child itself is now in some degree sensible. The sutures of the skull are considerably less open, which results not from diminution of the size of the head, but from advancement of ossification and increasing volume of the cranial bones. The flesh also is more firm, and the body and limbs more plump and round. Appetite good, sleeps well, no return of fits, bowels regular, diuresis still present.

Continuentur omnia remedia.

August 2d.—Little or no alteration in any respect in the condition of the child since last report. The ossification of the cranial bones has progressed a little, and the size of the sutures is still further lessened. Two incisor teeth have made their appearance, one in the upper and one in the lower jaw. Operated, and drew off twelve ounces of clear water. Drs. Baird, R. Routh, and one or two other medical gentlemen, were present. No retching or faintness followed the operation. Being desirous of giving mechanical support to the head more efficient than that afforded by the roller, we had a sort of many-tailed tourniquet bandage* constructed, which was now applied, and by means of which the cranial bones could be so pressed together and approximated as to be brought into complete contact, although at some points they were from an inch and a

* This bandage answered its object very well. One broad strip of it embraced the head longitudinally, the others vertically. On the former, besides a buckle, was fixed a screw like that of a tourniquet; to the latter were attached merely buckles: on applying the instrument moderately tight to the head by means of the buckles, by a few turns of the screw the head could be compressed to any extent thought requisite.

half to two inches apart. Continue the present diet and regimen.

We visited the child in the evening, and found him lying on his side in bed, and in a playful manner muttering to himself.

4th.—No change during the last two days, except that the head is again half distended; tightened the bandage, which had become a little slack.

6th.—Had a restless night, and has been retching and vomiting frequently this morning. Skin hot and dry; pulse quick; urine scanty and high coloured; little appetite; bowels confined; the head remains in the same state of distension as on the 4th.

To have an aperient powder immediately, and occasionally a little febrifuge mixture.

8th.—The pyrexial symptoms have all disappeared; appetite returned; diuresis again present; head full and tense; considerable emaciation of the body and limbs during the last few days, and the ossification of the cranial bones does not appear to be progressing. The child is becoming peevish and listless, but he is still fond of being out-of-doors in the open air, and he takes his beef-tea regularly.

10th.—No improvement or appreciable alteration during the last two days. Punctured the head again. Dr. Baird and Mr. Vance were present, and suggested that the whole of the water should be drawn off. The trochar was introduced close to the cicatrice of the last wound, and between 16 and 17 ounces of clear water escaped. At the close of the operation the child became faint and pale, and vomited two or three times. A few teaspoonfuls of a cordial mixture were administered, which immediately revived him. The head now presented a very singular appearance. The scalp was quite loose and flaccid, and the vertex formed the floor of a deep concavity, at the bottom of which the feeble pulsatory movements of the brain were just perceptible to the touch. By the advice of Mr. Vance, the tourniquet bandage (the pressure of which had caused one or two small spots of inflammation on the scalp) was now discontinued, and the flannel roller resumed.

Continuentur diæta et alia remedia.

11th.—Had a good and quiet night, but has been retching and vomiting this morning: occasional starting and raising of hands to head; skin rather hot, pulse frequent, urine scanty, bowels confined, but appetite not deficient. Vertex still concave, but less so than yesterday. Otherwise as before. Let the child have a little castor-oil immediately, and let five grains of strong mercurial ointment be rubbed upon the thighs every night at bed-time.

Continuentur alia remedia.

14th.—The ointment has been rubbed in three times, and the child has been very irritable and peevish during the last two days; his sleep also has been disturbed by frequent startings; little appetite, diuresis as before, head full but not tense, bowels free.

Continuentur unguentum et alia remedia.

22nd.—The parents have discontinued the use of the ointment, as the child has not been able, for some days, to use the breast, in consequence of soreness of the lips and tongue. These parts are at present covered with a thick crop of aphthæ. On applying the tape to the head its size was found to be exactly the same as when first measured, viz. $22\frac{1}{2}$ inches by $15\frac{1}{2}$; otherwise no change.

Operated for the seventh time, and drew off 12 ounces of *straw*-coloured water, which did not appear to affect the child in the least. Roller applied to the head as before.

Unguentum intermittatur sed continuentur diæta et regimen. Let the child be removed for some time into the country.

September 30th.—The child has been in the country during the last five weeks, which has not been productive of any improvement in his condition. The head, indeed, appears now larger and more tense than we have ever seen it, and the trunk and limbs are more emaciated. Countenance dull and oppressed. Oscillation of eyes violent; and he has lately experienced one or two rather severe fits of general convulsions. Diuresis urgent. Appetite good, and continues to take his beef-tea with eagerness. In other respects no change.

Punctured the head again, and extracted 28 ounces of *straw*-coloured water. No signs of faintness or manifestation of suffering from this operation.

Perstet ut antea.

October 3d.—Was very restless, and had several fits of slight convulsions, the night following the operation. The next day, however, the child was better, and tranquil, and has continued so till

the present time, without any return of the fits. The water, to a considerable extent, has reaccumulated in the head: in other respects the same.

Perstet ut antea.

12th.—Head much distended and tense, and from the progressing emaciation of the trunk and extremities, appears now unusually large. The stupor and dulness of hearing, though less intense than before, are again present, and the oppression of the countenance is increasing. No return of the convulsions, and pupils still, as first described, *not* dilated. Surface chill, pulse weak, and very quick; urine profuse.

At the suggestion of Dr. Baird a puncture was now made in the back part of the head, the trochar being introduced in the course of the lambdoidal suture, to the left of the os triquetrum. 42 ounces of clear water were drawn off, and the child did not appear in the least affected by it. Roller tightly applied to the head.

Let the child have a teaspoonful or two of a cordial mixture occasionally.

13th.—Spent a restless night. The vertex remains concave, and brain collapsed as after the operation, and the condition of the child, in all respects, much the same as yesterday. No convulsions. Appetite pretty good, and sucks often.

Let a little boiled milk, with arrow-root, be substituted for the beef-tea.

15th.—No change in the condition of the child during the last two days, except that the head is again nearly full.

As we were rather dissatisfied at the manner in which the calomel, administerered at an early period of the treatment, had disagreed with the little patient, we now felt disposed again to try the effects of the medicine, and considering that the pressure of the water on the brain had, in the first instance, interfered with its absorption, and constitutional action, to obviate this circumstance a puncture was a second time made in the course of the lambdoidal suture, and twenty ounces of clear water extracted. The following powder was ordered to be given to the child every sixth hour:

℞ Hydrarg. Submur. gr. ¼.; Pulv. Ipecac. comp. gr. ⅛.; Sacch. Alb. gr. j. Fiat pulv.

16th. 1 o'clock P.M.—Three of the powders have been taken, and three or four thin light-coloured evacuations have been passed from the bowels. The night has been spent in restlessness and whining. About 5 o'clock this morning the child fell asleep, since which time he has remained quiet and silent. At present he appears to be in a semi-comatose state. There is violent oscillation* of the eyes, with frequent grinding of the teeth; considerable tension of the extremities; skin dry and hot; tongue dry; pulse very rapid and irregular; respiration hurried and heaving; anorexia, with immediate vomiting when any thing is taken into the stomach; urine very scanty; vertex concave; and brain collapsed.

17th.—Had an attack of general convulsions about 9 o'clock yesterday evening, which was repeated at longer and shorter intervals till 3 o'clock this morning. He died at 4, an hour after.

Dissection, eight hours after death.—Great and general emaciation. On laying open the head by a crucial incision over the vertex, the dura mater presented its usual healthy appearance; the arachnoid membrane was of a pinkish hue, and its vessels gorged with blood

* *Writhing*, perhaps, would be a more appropriate term than oscillation for this morbid motion of the eyes, which evidently is not, like that of a pendulum, from which the term seems to have been transferred, either mechanical or uniformly lateral. In the case just related, the eyes, though almost in continual lateral motion, were sometimes turned downwards; but what appeared to us remarkable, we never once saw them directed upwards. As an instance of the discordance which in some points not unfrequently occurs in the general description of a disease, and the phenomena of individual cases, we shall give a short quotation from Dr. Copland's Dictionary of Practical Medicine (Part iii. p. 677), describing the condition of the head and the senses, and more particularly the eyes, in his third variety of chronic hydrocephalus—that to which the present case belongs. "When the cranium is very much enlarged, the countenance presents a nearly triangular form, owing to the bones and the lower features of the face retaining their natural size, or being smaller than usual. As the disease proceeds, the sutures are more and more separated, sometimes so far as to admit of fluctuation being felt, as remarked by Tulpius, Dreyssig, Monro, and others. The veins of the neck become enlarged (Lentin saw them varicose), the carotid arteries pulsate with much force, and the head generally hangs on one side, or on the breast. Owing to the unequal yielding of the cranial parietes, some one part of the head is occasionally more prominent than another. The eyes are generally watery, covered by the eyelids, the pupils dilated, directed upwards, occasionally downwards (Feiler, Goelis, Schmidt) and sometimes horizontally to either commissure of the eyelids. The senses, the intellectual faculties, and the locomotive organs and functions, betray more or less disorder. Sight is first impaired, and all the other senses subsequently fail."

of rather an arterial colour: the convolutions of the cerebrum were completely obliterated, and this division of the brain formed a large double cul-de-sac, smooth externally and internally, which contained four pints of clear water; the lateral ventricles, and also the third, in which this fluid had collected, communicated by an opening almost as large as the foramen of Winslow in the peritoneum, the septum lucidum and the fornix being absent, either from morbid destruction or non-development: the serous membrane lining the entire of this cavity was somewhat thicker and less transparent than natural; its veins were much enlarged, and their course, converging from the circumference to the centre, was beautifully conspicuous. The plexus choroides were large, and of a drenched appearance. The cerebral substance was much softened, and very thin. On the upper part of the anterior lobes it was little more than a line in depth; its thickness increased in the middle and posterior lobes. There were no appearances either in the brain or its membranes from which it could have been inferred that inflammation to any extent had followed any of the punctures. The situations of three or four of these were marked by little cicatrices or white lines in the cerebral substance, similar to those which remain on the arm after venesection. The arachnoid membrane and pia mater at the base of the brain were much thickened, and also covered by a deep incrustation of stratified lymph, which exhibited a difference in colour and consistence, as if its effusion had taken place at old and recent dates. On removal of this lymph with the subjacent membranes, the cerebral nerves, white and healthy-looking, were seen issuing from their respective origins. No tubercular deposits* of any sort were found either in the cerebral substance or its meninges. The condition of the cerebellum appeared pretty healthy. Weight of the cerebrum and cerebellum, with a portion of the medulla oblongata, 1 lb. 10½ oz. These, after the whole of the water was removed from the cranium, did not occupy more than between a third and fourth of its cavity. No other part of the body was examined.

Quantity of water extracted at each operation—

Operation	1st	4 ounces.
—	2d	6
—	3d	6
—	4th	7
—	5th	12
—	6th	16
—	7th	12
—	8th	28
—	9th	42
—	10th	20
Found in the head after death		64
	Total	217

This water during the course of the treatment was several times tested in the usual manner by heat and an acid, but no trace of albumen was detected.

In the treatment of this case of chronic hydrocephalus, although we were not so successful as to have established a cure, nevertheless we must claim some credit for the therapeutic measures employed, in having effected, for a time, considerable and manifest improvement in the condition of the brain, and also in the general condition and health of the child. In combating disease, (let us here observe), especially if of an intractable and destructive nature, when from the peculiarities of the case it may be deemed fit to have recourse to remedial means of doubted or disputed reputation, though death, as in this instance, should ultimately supersede our efforts, it must still be satisfactory to know that, by these, an amelioration of symptoms, and some prolongation of life had been obtained. We are fully aware of the difference of opinion which generally prevails regarding the results, whether beneficial or otherwise, of tapping the head in this affection; and several of the facts that have been urged on both sides of the question we had an opportunity of witnessing during the progress of the present case; to a few of which, with some other points in its pathology, we mean now briefly to advert.

It is scarcely necessary to state that we are advocates of the operation, and on this account naturally feel the more disposed to draw attention chiefly to those circumstances in the treatment of the case which must evidently be considered commendatory of the measure.

* We allude to the appearances lately disclosed in some interesting papers on infantile pathology, by Dr. P. H. Green.

Look at the condition of the child when it first came under our care, and during the early medicinal treatment, and compare this with that which it presented from the third until after the sixth operation. What a happy alteration in all respects did not the state of the little patient exhibit during this latter period! and to what was it attributable? Solely and simply to the relief afforded to the brain by the removal of the incumbent fluid. Observe the great amendment which had taken place not only in the cerebral functions, but also throughout the entire extent of the animal and organic systems. The attacks of convulsions had ceased; the stupor and drowsiness had disappeared; sensibility and voluntary motility had returned; the senses were resuming their functions, and the development of the mental faculties had actively commenced. The sense of hearing, as we have seen, from having been almost extinct, had become remarkably acute; vision also to some extent had returned, and the expression of the eyes and of the countenance altogether was considerably improved and more intelligent. The circulation, too, had become more diffused and equable, and the functions of assimilation and of nutrition were more healthily performed. These latter amendments, vital and important, as will be granted, were very manifest in the much less anæmic appearance of the cutaneous circulation in general, and that of the scalp in particular; and by the plumpness and firmness which the body and limbs had acquired, and also by the progressing ossification of the cranial bones. Up to this point matters could scarcely have gone on more satisfactorily, or more to the credit of the operation; but after the seventh tapping, when the child was ordered into the country, we had relinquished, we acknowledge, all hopes of its recovery; and the subsequent punctures and other remedial measures were had recourse to more with the object of alleviating symptoms, and mitigating suffering, than from any hope we then entertained of effecting a cure. It has been seen, however, that the extent to which the water had accumulated in the head during the child's stay in the country had brought on a return of the convulsions, and that these inauspicious symptoms, on the removal of the fluid, again subsided, and did not return till a short time previous to death. This fact, of itself, as it contains some therapeutic instruction, is not undeserving of a little attention. And, though not altogether in place, we are tempted here to remark that it cannot be the part of a diligent physiologist, or of a humane and attentive physician, to permit his prognosis, however unfavourable it may necessarily be, either to impair his interest in the terminating phenomena of disease, or interrupt his solicitude in administering whatever relief his art or his anxiety might suggest. With us, unquestionably, there is no period in the progress of human suffering which more fully engages our attention, and from which, we conceive, we derive so much information, as the period now referred to, namely, the latter hours of fatal illness. Is it not, we would ask the student of the bedside, at this particular time, during the co-existence of disease and incipient dissolution, as the symptoms of the former are gradually being obscured in the signs of the latter, that human pathology becomes most analytical, and develops some, nay, many, of its most impressive and instructive facts, and therefore that much critical and practical knowledge of the direct dependencies of the several vital functions may be obtained by attentively observing the order in which their lesions rapidly supervene, together with the increasing difficulty with which life is sustained, as these become more and more numerous? We would willingly continue our observations on this point, but it would detain us from our subject.

We have said that we are advocates of this operation: we shall state our reasons. They are these: we advocate it, 1st, from the number of cures which it is reported to have produced, and we are satisfied it has done, in the hands of other and more experienced operators.

Dr. Conquest in this country, and Graefe on the Continent, have published some cases in which they seem to have been singularly successful. 2nd, from the very manifest benefit which we ourselves observed to result from it, in the present aggravated, and, as was considered, hopeless case. And 3d, from the obvious rationality of the measure, as it would appear to us, when had recourse to at the proper period, and under the particular combination of lesions, which ought indeed, we conceive, *per se*, to indicate its application. When the head, as in the case under considera-

tion, has become so enlarged that its appearance altogether might bear some resemblance to that of a small balloon, and the coronal and sagittal sutures are from one to two or three inches asunder, and when over these parts the scalp has become so distended and tense that it has acquired a smooth and shining surface, and further when the touch here can discover no cerebral motion, but can easily detect the subjacent fluid, and if (as no doubt generally is the case) with this set of physical signs, coma, insensibility, and perhaps convulsions be joined, no reliance on general expedients should, in our humble opinion, delay for a moment the employment of the trochar. This case, it may be mentioned, had been under the care of several medical men, and had undergone a variety of treatment before we saw it, but no means that had been adopted had afforded any relief, or indeed produced any effect in the disease. The tapping alone wrought the first change; which change, seconded by the nutritious diet of beef-tea, and the salutary exercise in the open air, we had every expectation, for some time, would have gone on to a perfect cure. To what we are to attribute the cause of the relapse it is difficult to say. The parents latterly became impatient and negligent, and the child in consequence did not receive the attention we should have wished.

As a good example of the pathological sympathy which is frequently manifested between the brain, under some states of disorder, and the functions of the kidneys, we would instance the diuresis that was present in this case, and the manner in which it was immediately influenced by the removal of the water at each operation. At these times, indeed, it appeared to us that a sort of metastatic connexion existed between the sudden diminution of the renal secretion, and the rapid simultaneous reappearance of the cerebral effusion.

Is it not a circumstance of some curiosity and interest, and somewhat difficult to understand, that the improvement which took place in the general health and condition, and also, as we have seen, in the state of the brain itself of this child, was not, as might have been expected, accompanied by a consentaneous reduction or return to a more natural size of the head, or, in fact, any abatement of the dropsical accumulation? The head certainly, on measurement, was found to have varied a little in dimensions two or three times during the course of the treatment; but this, it seemed to us, was not owing to any thing otherwise than a casual modification in the state of the effusion; for we actually observed, not without considerable correction of our preconceived ideas on the matter, that during the period when the child's condition, externally in all respects, was most of all improved and improving, at that very time, on occasion of the removal of the water from the head, the distension returned with the greatest celerity: what explanation are we enabled to offer of phenomena so seemingly discrepant?

If we criticise with attention the salutary alterations which our treatment had effected, will it not be perceived that the greater part, indeed that all of them, can be traced to a more active and healthy performance generally of two or three of the organic functions, namely, circulation, exhalation, and nutrition? and that it was simply to our having succeeded to a considerable extent in arousing these primitive principles, simultaneously with their increased activity in other parts, to a more energetic state of action within the cranium, that we were indebted for the temporary revival of the cerebral functions themselves, properly so called, *i. e.* sensation, motion, and intellect; and that we must also attribute the cause of the continuance of the hydropic effusion. The proximate cause of the disease, we are disposed to think, was seated not in the arterial but in the venous side of the cerebral circulation, and involved a defect in the function of absorption, and notwithstanding the reaction and approach to a more normal condition which were manifested, for a time, in the state of the brain, its animal, and also its organic functions above mentioned, this lesion of absorption remained unrepaired from first to last, which, we have no doubt, was the reason of our ultimate failure in effecting a cure.

The principal ill consequences which have been placed to the discredit of the operation, are inflammation of the substance of the brain or its membranes, and cerebral collapse. Of the former, mechanical injury by the trochar has been considered the cause. But our experience in the case under consideration would lead us to doubt the entire correctness of that opinion; for, on re-

ference to the dissection, it will be found that the vicinity of the punctures were exempt from all inflammatory results, but that these were located at a different part of the brain—namely, at its base. These facts have induced us to think, that perhaps in this case it was not so much the puncturing of the brain as the consequent collapse of the organ, which gave rise to its several attacks of inflammation; and this opinion, it may be allowed, receives more than a little corroboration by our having observed, during the treatment, that the symptoms of cerebral inflammation, and the state of cerebral collapse, were always concomitant; that after each operation, although the brain necessarily became more or less collapsed if that state continued longer than twenty-four hours, it was afterwards accompanied by general febrile excitement and symptoms of cerebral inflammation; and that on the disappearance of these, the dropsical effusion was again quickly repeated, and the brain rendered distended and tense. Such phenomena we observed not only once, but three or four times; and the mode in which it would occur to us to explain them, would be, that under the condition of collapse, the mass and weight of the brain, instead of being supported, and pressing, as in the healthy state of the organ they naturally do, on the sides as well as on the base of the cavity of the cranium, pressed wholly on this latter part, thereby producing more or less obstruction of the circulation, with some degree of irritation of the interposed membranes, on which the inflammatory attacks supervened; that during the existence of these attacks, and more especially of the sympathetic febrile excitement, owing to, and concomitant with, the *general* arrest of secretion and exhalation which accompanies and characterizes such a state of the system, the *local* effusion in the present instance was suspended, and the brain, in consequence, remained collapsed. But, as has already been remarked, as these inflammatory and febrile states disappeared, and the processes of exhalation and secretion generally resumed activity, the dropsical effusion was speedily repeated, and the brain rendered distended and tense. If this explanation be correct, what is the instruction, and what are the practical indications, which it contains? Does it not point to the propriety, in performing the operation, of using every precaution to avoid the occurrence of collapse?—and that, it appears to us, can only be done by extracting the water slowly and in small quantities: from four to six ounces is the most, we think, that should be drawn off at a time.

The practice by acupuncture, recently had recourse to in the treatment of other species of dropsy—namely, hydrocele and ascites—might, perhaps, be beneficially applied to chronic hydrocephalus, and, as we think well of it, we intend, in the first case like the present which may come under our care, requiring to be operated upon, to give it a trial. A few words more in conclusion.

In a former paper*, in which we described three cases of cerebral disease in children, which we considered to be cases of chronic hydrocephalus in its first stage, we pointed out the presence of a murmur or sound accompanying the cerebral pulsations, audible on the application of the ear to the anterior fontanel and parietal bones. In the case we are now considering, it is well worthy of notice, though a similar affection to those to which we allude, but in a different and more advanced stage of its progress, this auscultic phenomenon was entirely absent. And why? Because, in fact, the diseases, though similar in names, were very different in their pathological natures. In the cases of Crispin, Long, and Moore, in the paper above referred to (which, regarded as cases of chronic hydrocephalus, should perhaps be viewed as more in their causes than actually formed), considerable excitement of the circulation and increased action of the vessels of the brain, which appears, indeed, to belong to the earliest stage of the malady, and from which the sound evidently results, were present. But not so in this case of Saunders: here the disease was in its fullest state of development; its pathology had run its course complete, and had passed beyond the point at which, if the child's head had been auscultated, the sound in question would, no doubt, have been detected. Here the cerebral circulation, instead of being excited and accelerated, had become depressed and languid almost to arrest, and the usual pulsatory movements of the brain had altogether ceased.

* Medical Gazette, Aug. 19, 1837.

As a diagnostic sign of chronic hydrocephalus, in its most incipient state, that state obviously in which remedial measures can be had recourse to with most hope of success, we are much disposed to think this cerebral murmur will be found of considerable practical utility; and as an instance in point, we will here state a case which has occurred within the humble range of our own experience. Nearly three years ago, Mr. M'Cay, then of Stewart Street, Bishopsgate Street, a fellow-student of ours, whose attention we had drawn to the existence of this sound in the heads of some children, requested us to examine a case with him, in a Court behind the Bank, of a child of the name of Griffiths, between two and three years old. On examination, we found the child drooping, peevish, and pale; its flesh soft and flabby; its abdomen larger than natural; the bowels irregular; its sleep disturbed; some thirst, and occasional complaint of headache. The head did not appear in any degree enlarged, but the anterior fontanel was still open, and its pulsations more heaving than natural; and, on applying the ear over the part, the subjacent sound was very audible. We at once expressed our apprehension to the mother that the indisposition under which her child laboured was dropsy of the brain, commencing or already present, and prescribed accordingly. We did not see or hear any thing further of the child for about two years, at the end of which time, to a day or two (not having a case of the disease then in our own practice), we went in search of it, and to our surprise found it; and how?—just moribund; with its head enormously enlarged and full of water. We learned from the parents, that, from the time we first saw this child, its general health never shewed any signs of improvement, but gradually became worse, and its head commenced to enlarge; that up to the time of its death it had been continually under medical care, but without having experienced any satisfactory relief from any treatment which was adopted. No operation was performed.

In the paper which we have already referred to, we took occasion to mention that we thought some analogy might be perceived to exist between the condition of the brain and its circulation, during the presence and absence of this cerebral sound in chronic hydrocephalus, and the condition of the lungs or lung, and its respiration, during the presence and absence of the respiratory murmur in the diseases of empyema and hydrothorax. When we began to operate upon the child, the idea occurred to us, that if the treatment should prove successful, as the cure advanced and the quantity of water in the head gradually diminished, we might probably have an opportunity of observing the disease, in some respects, retrace its steps—of witnessing, for example, the resuscitation of the cerebral pulsations, and redevelopment of the cerebral murmur; just as, after the operation of tapping the chest for empyema or hydrothorax, is frequently observed the re-expansion of the compressed lung, and the redevelopment of its respiratory murmur. But such was not the case. The disease, as we have seen, in spite of all our exertions, proved fatal. Whether, if it had been otherwise, and, instead of the improvement that was produced, a cure had been effected, we would have had the satisfaction of witnessing the confirmation of our views, must remain for further experience to determine. The editors, we may mention, of the British and Foreign Medical Review, in their number for October 1837, do not seem disposed to coincide with our views on this point.

43, Sackville Street,
Sept. 24, 1839.

THE CONNEXION OF THE HUMAN PLACENTA AND UTERUS

SHEWN WITHOUT THE AID OF INJECTION.

To the Editor of the Medical Gazette.

SIR,

ON the 16th of June, 1839, a gentleman very kindly sent me the uterus of a female, who had died of diseased heart fourteen days after the expulsion of a seven months' fœtus. The uterus measured externally, from the margin of the fundus to the margin of the anterior lip, five inches, and its greatest breadth was three inches. The os uteri was of a dark purple colour, with a granular and somewhat shreddy surface; but it was not fissured.

The internal surface of the uterus presented a granular appearance, from particles of adherent plastic lymph. A portion of the placenta, about half an

inch in thickness at the thickest part, adhered to the anterior part of the body and fundus of the uterus. The free surface of the placenta was granulated and very irregular, with many prominences and depressions. The structure of the placenta was throughout free from any appearance of decay, and perfectly healthy. On cutting perpendicularly through the uterus and placenta, several of the uterine veins were seen to contain tubular concretions of plastic lymph, not adherent to the walls of the vessels, and having both their surfaces besmeared with blood. One remarkably distinct concretion of this kind was seen projecting from the surface of the incision in the fundus. Similar tubular concretions were observed in the oblique vessels passing between the uterus and placenta, quite as beautifully displayed as in William Hunter's preparations now deposited at Glasgow, where they are injected with wax. These, however, were less exactly tubular, and of a less firm consistence, than what were seen in the uterine vessels. Other concretions of plastic lymph within vessels were observed in the substance of the remnant of the placenta. They were the same in their nature, but less distinctly tubular.

On cutting into a dark puckered spot in the left ovarium, a corpus luteum was discovered, having a fleshy disc, and a firm white substance in the centre.

The preparation is in my possession.

Your obedient servant,

WILLIAM CUMIN, M.D.

Regius Professor of Midwifery.

Glasgow, Oct. 2, 1839.

THE VENEREAL POISONS.

To the Editor of the Medical Gazette.

SIR,

As my friend, Mr. Skey, in making honourable mention of me in his lectures on venereal diseases, or, as he would exclusively term them, the venereal disease, has indulged his own feelings of kindness and candour rather than my particular request that he would not introduce my name, I am desirous through the same medium of your journal, of stating that my own deductions on the subject of venereal poisons are not to be supposed identified with those of the very able lecturer. I admit that his bias towards the latest fashion of hypothesis is very moderate, considering the weight of contemporary authority on his side. I cannot, however, but express my own unequivocal dissent from the supposition that all forms of venereal disease are convertible maladies, dependent merely on the constitution of the patient. Some of them, indeed, as the ulcerative phagedæna, and its multiform brood of local affections, the elevated ulcer, &c., may be, and occasionally are, of spontaneous or constitutional origin, as well as contagious; but they are not convertible, as might be inferred from Mr. Skey's own testimony, that the elevated ulcer is not succeeded by secondary disease; whereas the secondary forms of the phagedænic ulcer comprise nine-tenths of the cachectic cases condemned to our foul wards. Every additional day to twenty years of minute observation of venereal maladies, adds to my conviction that there is a plurality of poisons. Of one, the indurated chancre, the lues of Hunter, or, in other words, the scaly venereal disease of Carmichael, is a uniform and individual product. I must further withhold my assent to the position that the question of origin is not practical, for it cannot but be obvious that moral suffering of the gravest character may be inflicted on the already sufficient amount of physical ills by such vagueness of opinion.

Never did truth, even in the incertitudes of medicine, encounter such disastrous adventure as in the whole history of syphilis, from the gratuitous supposition of its transatlantic origin to the modern discovery of its non-existence. To increase the natural difficulties of a subject so extensive in its many relations and resemblances, while some have jumped to the conclusion that there is no specific pox, others contribute to the thickening of the confusion, by supposing progressive alterations and modifications by age, by hybridization with scrofula and scurvy, and lastly, combinations with mercury—all, however, equally indeterminate and anomalous, and all peculiar to this species alone of contagious disease.

To escape, however, at once from this conjectural region, in which

> ——— "Chaos umpire sits,
> And by decision more embroils the fray,"

there seems to me this at least of practi-

cal consolation, that the very language of the confusionists has a gradual but well-marked tendency to fix the peculiar and striking characteristics of the more important venereal diseases. Descriptions of the ulcerative phagedæna, with its peninsula of new skin, the fungous or elevated ulcer, and the marbly hard chancre, are constantly reiterated by those who are the advocates of identity and uniformity. La Rochefoucault says, it is with love as with ghosts, all the world talks of them, but no one sees them. The converse would seem to happen in venereal maladies, for every one professes to recognise their several lineaments, but denies their separate existence.

On opening, a few days since, the Atlas of Rayer, I observed in juxtaposition the three most important local venereal affections, viz. the phagedænic ulcer, the fungoid or elevated ulcer, and the Hunterian chancre. Twelve years since I communicated some general points of distinction of these three forms to the Medical and Chirurgical Society of London. I have no doubt that the coincidence in Rayer is the simple concurrence of facts, that may be obvious to all who are not blinded by prejudice.

Mr. Travers, however, among others, assures us that "the signs of distinction are becoming obscure, and the bases of them will eventually, he would add, soon be forgotten;" and, moreover, that the Hunterian chancre is nearly obsolete. Now, after all the critical rheum voided on John Hunter, the most faithful and most candid chronicler of his own perplexities and errors, I shall scarce be denied the occasion of expressing my own reverential gratitude for that light which he first brought out of darkness. His very doubts appear to me, even now, better calculated to elucidate venereal diseases, than the assumed certainties of his modern antagonists. He at least led the way through an unbeaten waste, with zeal, patience, and great personal hazard, and if he did not wholly unravel the many mazes of difficulty, he only failed where many more of younger times are still foiled; and lastly, in return for opinions "which," he said, "I have proved so long as to reduce them to conviction," let it be graciously if not gratefully recorded, that, instead of his sagacious account of syphilis becoming obsolete, after the successive testimonies of Abernethy, Pearson, Carmichael, Evans, and others, to the distinct existence of a Hunterian venereal disease, the latest and very able commentator on his works, Mr. Babington, has justly pronounced his opinion that, in the most essential characteristic of the peculiar induration of chancre, the original description scarcely admits of amendment in its verbal accuracy. May I be allowed to subjoin my own almost superfluous testimony to the existence of the Hunterian venereal disease, or scaly venereal disease of Carmichael, and in the majority of cases of which mercury will still be found always advisable, and often indispensable. To this remedy the malady is in all its forms, and in all textures, so uniformly and readily amenable, that the comparative proportion seen in hospital practice is very small.—I am, sir,

Your obedient servant,
RICHARD WELBANK.

Chancery Lane, Sept. 28, 1839.

CONTRIBUTIONS
TO
DESCRIPTIVE ANATOMY.

By ROBERT KNOX, M.D.

[*For the London Medical Gazette.*]

The Pancreas.

A VERY general opinion prevails, in this country at least, that the descriptive anatomy of the human organs has been carried to the highest degree of perfection of which the subject is capable. This opinion is unquestionably true in respect to by far the greater number of human organs; still I have always thought that there are some whose anatomy might at least be much improved, and I have selected the pancreas as an organ whose description modern anatomists have not given with all the accuracy desirable in such matters: I say modern anatomists, for it seems to me that descriptive anatomy, although somewhat verbose and surcharged with irrelevant digressions, was of a superior cast in the times of Santorini, Morgagni, Albinus, and Haller, to what it is in the present day: should any critic, therefore, endeavour to shew that most of the facts about to be mentioned might be *collected* toge-

ther by an industrious student, as they at present lie scattered through the writings of those great men, my reply is, that this is certainly probable; and if my dissections confirm their writings (too much neglected no doubt in the present day), and if the facts themselves are of importance, then I hope it may be admitted that the sooner such descriptions become parts of the text of modern compilations the better.

1. Of the Pancreas, from παν κρεας, *all flesh*. Its general shape and position in the body described from an adult female of middle age.*

In its general shape, resembling a hammer with the handle much curved or bent; it is placed in the abdominal cavity, exterior to the peritoneum, and behind the stomach: the larger end, which I shall call "duodenal," is in close contact with the concave side of the duodenum; the smaller or splenic end approaches to within about half an inch or even less of the spleen. The whole organ may be divided into two parts, for the sake of description, viz. a vertical portion and a horizontal portion; the vertical, which is also the shorter and smaller portion, being placed across the other, though intimately united with it, and in a great measure embraced by the duodenum, to whose muscular tunic it closely adheres: the longitudinal portion is much the longer part of the pancreas; it extends from the duodenum, behind the vertical portion, quite across the spine, until it approaches the spleen. This portion lies nearly flat across the spine, and is therefore naturally much curved; its concavity will generally be found to correspond to the anterior surface of a part of the 1st and 2d lumbar vertebræ, and of their connecting fibro-cartilage. The whole anterior surface, which looks almost directly forwards, is covered by the superior layer of the transverse mesocolon; the posterior surface rests upon the suprarenal capsule of the left side and kidney, a small portion of the aorta, and of the last turn of the duodenum, a portion of the splenic artery and splenic vein, and of the superior mesenteric vein, the commencement of the vena portæ; it also lies, in part, on the anterior surface of the middle division of the duodenum, and of the vena cava abdominalis. To all these parts it is connected by cellular substance, varying in density at different points.

The inferior layer of the transverse mesocolon can scarcely be said to invest any part of the posterior surface; the pancreas, however, ultimately rests on the vertebral column. Besides the anterior layer of the transverse mesocolon which covers its anterior surface, the greater part of that part of the pancreas which lies on the left side is concealed by the body of the stomach approaching the cardiac end of the stomach when this viscus is left in its natural position, whilst the duodenal or large end of the pancreas is concealed by the pylorus and pyloric end of the stomach; the intermediate portion, that which lies on the vertebral column, is concealed by the smaller omentum, and may be seen directly on its being cut through. In respect to the margins of the pancreas, it will be found that the upper margin scarcely dips backwards, but that the lower margin looks forward exactly in the middle plane of the body, in consequence of its being supported by the last turn of the duodenum; but if the duodenum be empty, then the inferior margin of the pancreas can scarcely be said to look directly forwards at all, but rather directly downwards.

In respect to these margins: proceeding from the right to the left side, we find that the extreme left, which is slightly notched, but not much narrower than the other parts of the pancreas, approaches to within a quarter of an inch of the concave edge of the spleen, connected to it and to the posterior surface of the cardiac end of the stomach by the peritoneum. The splenic artery turns behind this upper margin for about an inch and a half, but for the other three inches of its course it lies above the margin of the pancreas, between it and the stomach, and rather in front of the pancreas than otherwise; the splenic vein throughout nearly its whole course lies behind the pancreas and inferior to the artery, but even this vessel when within an inch of the left extremity of the pancreas, ascends somewhat above it in order to reach the spleen. About the middle of the pancreas and where it

* Butchers in this country call it the kernel behind the liver; they have no name for it, and they do not know its use. Indeed, as was to be expected, I have found such persons altogether ignorant of the use of most parts of animal bodies.

lies in front of the vertebral calumn, the cœliac axis will be found directly behind it; the commencement also of the hepatic artery will be seen here, but this vessel soon gets above the superior margin of the pancreas, and ascends towards the liver, crossing the vena portæ in its course from the left towards the right side. The vena portæ ascends from behind the pancreas towards its upper margin, two inches from the termination of the gland on the right side. In respect to the lower margin of the pancreas, we find that it is supported in the centre by the last turn of the duodenum, while to the right side we find the superior mesenteric artery coming out from below the inferior margin, at the distance of three inches from the concave side of the duodenum: the principal branch of the superior mesenteric vein may be seen a little to the right side of the artery.

Thus the commencement of the vena portæ lies behind the pancreas, as near as may be, two inches and a half from the duodenal end. The total length of the gland without being stretched is somewhat more than nine inches; narrowest part of which is, to the right of the spine, one inch; broadest part of the horizontal portion, which is to the left side of the column, one inch and three quarters; vertical portion measured in its longest axis nearly three inches: this part of the gland, which lies in front of the ductus communis choled. is in the closest union with the vertical portion of the duodenum on its second turn: it is somewhat in front of the intestine, and on its concave side, and is in immediate contact with the muscular fibres, to which it adheres by means of a close cellular substance so that on removing the gland from this part of the intestine the muscular tissue is immediately exposed. This intimate union between the gland and duodenum commences three inches from the pylorus, and continues for three more. Very generally the duodenal part of the gland partially envelops a larger division of the inferior mesenteric vein, by sending a process to the extent of nearly three-fourths of an inch behind the mesenteric vessels, in this way the gland forms an incomplete sheath for these vessels.

The gland and duodenum being now removed for a more careful examination of its form, the following particulars were observed, and although anticipating somewhat, they will be found applicable to most specimens of the adult pancreas. The pancreas has no special capsule, but it is invested by a layer of cellular tissue, which plunges into it at almost all points: it is smooth externally, and by prolonging itself into the interior of the gland, serves to support and partially insulate the smaller lobes and lobules of which the pancreas is ultimately composed. By cautious dissection, commenced on its posterior surface, these lobes may be so separated from each other as to allow of the main duct (duct of Wharsing) being exposed without necessarily cutting into the substance of the lobes themselves. From these lobes and their lobules may be seen at this stage of the dissection numerous smaller ducts proceeding to join the main duct, at various, but generally at right angles, or at somewhat acute angles, the angle being turned towards the splenic end of the pancreas. There are, however, as we shall afterwards find, others which join at an opposite angle; that is, running from the duodenal towards the splenic end.

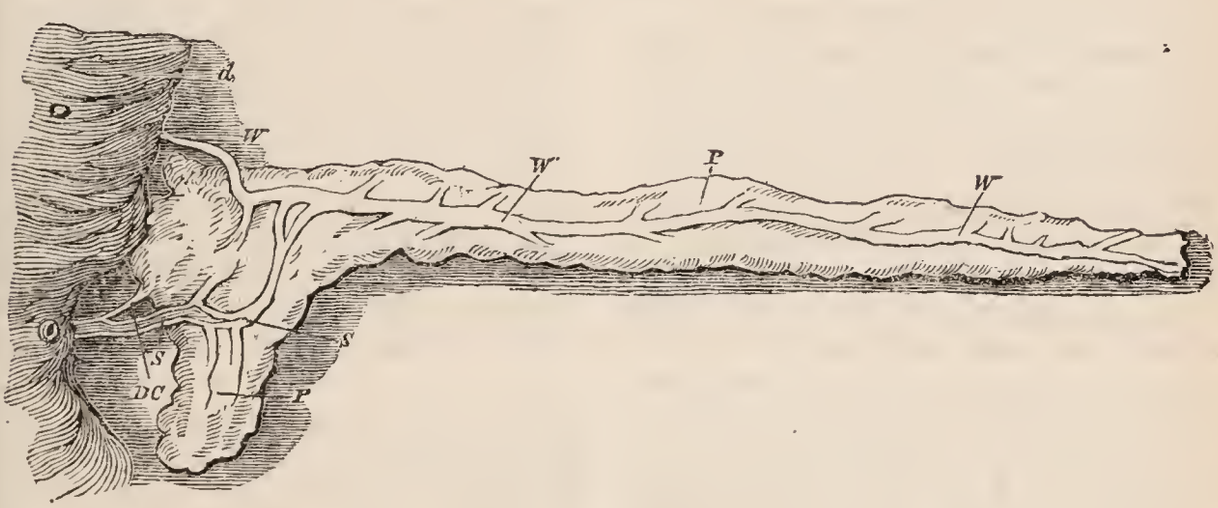
In respect to the form of the pancreas, it is extremely difficult to describe by words the exact course it follows: the accompanying figures, and their explanations, will, I apprehend, be more useful to the reader than any description: it may be observed, however, that the horizontal portion of the gland (the pancreas of Winslow), commencing by a somewhat pointed, notched, and irregular extremity, near the spleen, soon acquires its full breadth; this is about opposite to the spinal column; the gland soon after this contracts, becomes rounded, is curiously twisted upon itself, and here, to the right of the spine, will be found the narrowest part of the gland. A little further on to the right side it joins the vertical portion, (smaller pancreas of Winslow) which, as it were, conceals it, sending a process towards its upper margin and anterior surface, and another behind the mesenteric vein towards its lower edge and posterior surface. This vertical portion, or smaller pancreas of Winslow, is also very singularly twisted upon itself; its extent and connexions with the duodenum have been already related. In what respect, then, these portions of the pancreas may be considered as separate glands, remains to

be considered; this question will come in more naturally after the examination of the duct or ducts of the gland.

I come next to speak of the duct or ducts of the pancreas. The text of M. Jules Cloquet's folio work contains a very brief history of the pancreas, and describes it as usually having a single duct. On referring, however, to the very beautiful engraving which accompanies that work, we find represented a pancreas which not only has *two ducts*, entering the duodenum *separately*, but which moreover represents these ducts as uniting with each other by their radicles or branches. As this plate of M. Jules Cloquet figures in an elementary work, the student might be led to suppose the distribution of the ducts here represented to be the normal one. The figure, however, has been merely copied from Santorini, and exhibits an arrangement which cannot be considered the normal or regular one; it is to be regretted, therefore, that M. Cloquet did not cause a few dissections of the pancreas to be made, and thus the normal arrangement would have been brought before the student. It occurred to me, that the best, though perhaps not the only way to supply this deficiency, in our elementary anatomical works, was to examine a certain number of specimens with care, and draw from the result some general inference or average.

Another mode of deciding this question will, undoubtedly, occur to the reader, viz. a reference to the best authorities—to the writings, in short, of the anatomists whence modern compilations have been chiefly drawn. I have preferred the former method as being more congenial with my usual pursuits, but have not neglected the latter; such authorities as De Graaf's, or Santorini's, could not, with propriety, be overlooked. With a view of preventing any bias in the mind of the reader in favour of the conclusions I may ultimately draw from the following dissections and references, I had better enumerate them in the order in which they occurred. The dissections were made from a series of specimens taken from the practical rooms, but not selected; they all occurred in a few weeks.

Fig. 1.



Explanation of Fig. 1.

d.d. The duodenum.
p.p. The pancreas.
w.w.w. The duct of Wirsung or long duct, entering the duodenum separately 3½ inches from the pylorus.
s.s. Small duct of the pancreas, entering the duodenum along with the ductus communis choledochus, 5 inches below the pylorus.
d.c. Common biliary duct or duct com. choledochus.

The above figure is a mere sketch of the *first pancreas dissected with a view to ascertain the normal arrangement of the ducts*; and by a curious coincidence, it presented a variety scarcely described by any author: the organ happened to be the subject of the demonstration to the class; it belonged to an adult female beyond the middle age; the *shorter duct* nearly equalled the longer in calibre: it collected branches from nearly the whole of the vertical or duodenal section of the pancreas, but not *exclusively so*. Its union with the common biliary duct was so intimate that they seemed to have but a common orifice into the duodenum. The ducts seemed not to communicate by anastomosis with

each other. Thus, the first pancreas examined presented the rarest variety, I imagine, which has occurred to any anatomist. It is unnecessary to point this out at greater length to the anatomical reader. I shall here take the liberty of cautioning the young anatomist, that the ducts, being so very varied in their arrangement, require to be injected and dissected with great care. In the present, my assistant, an excellent and careful dissector, did not observe the duct at all, although, previous to my seeing the gland, he had dissected the larger duct for demonstration to my class.

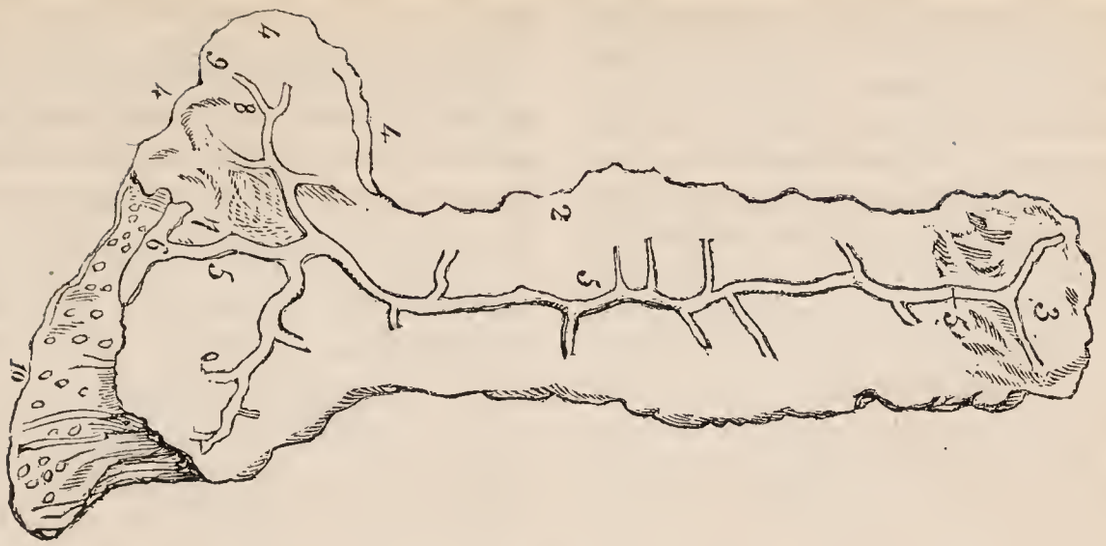
Fig. 2.

Explanation of Fig. 2.

d.d. The duodenum.
p.p. The pancreas.
w.w.w. The duct of Wirsung, or long duct.
s.s. Small duct of the pancreas.
b. Communicating branches between the small and large ducts.
e. Termination of the small duct in the duodenum, about 1¾ inches above the termination of
f. The longer duct, opening into duodenum along with the common biliary ducts.
r. Marks a considerable branch running in an opposite direction to most of the different branches; it is worthy of notice that this branch joins the main one near to a part where, in some specimens, the main duct divides into two branches. At a hasty glance the variety here offered might seem precisely that described by Santorini, copied by M. J. Cloquet as the usual structure, and by many others, but it is not exactly so, as will be shewn presently; as it is that, however, which approaches it in all its esential particulars, I shall, at this stage of the memoir, first describe the specimen from which fig. 2 was taken, and next offer a few remarks respecting the engravings and text of Santorini.

I have already mentioned that the pancreas I now describe was not *selected*, but simply occurred in the dissecting rooms *next after* the preceding one. It was of great size, which reminds me how much this gland is known to vary in different individuals, both as to bulk and weight (but not in form, as will afterwards be shewn). In dissecting it the duodenal entrance of the large duct, or that of Wirsung, was first sought for, and through it a warm coloured injection of tallow and vermilion was thrown into its duct, and its branches filled in a direction the opposite of their course. The injected material speedily filled the large duct and all its branches, and a very little force being used it returned into the intestine by an orifice placed about 1¾ inches above; this orifice evidently belonged to another duct, probably resembling, in its course, the duct described by Santorini. By a careful dissection, the parts, as represented in the figure, were finally made out. From the great size of this pancreas, many points in its history, respecting the particular shape of its individual parts—the remarkable twisted portion, where the gland is narrowest—the twisting also of the vertical or duodenal portion, were all remarkably prominent. As this arrangement differs in no very essential particular from the engraving of Santorini, it may seem to some that copying the figure of Santorini in this place is supererogatory. I hope, however, to satisfy the careful reader that this is not the case.

Fig. 3.



Copied from the celebrated work of Santorini.

1. Head of the pancreas.
2. Middle part of the same gland.
3. Tail of the pancreas.
4, 4, 4. Prolongation named "small pancreas" by some authors.
5, 5. Pancreatic canal of Wirsung.
6. Termination of this canal in the duodenum.
7. Duct. com. chol.
8. Accessory pancreatic canal.
9. Its termination in the duodenum.

Having placed both figures before the reader, I shall now take the liberty of making a few remarks respecting the text. The whole of the text does not strictly belong to Santorini, but partly to the editor who published the work after Santorini's death.

The work of Santorini contains three very beautiful engravings, having reference to the distribution of the pancreatic ducts, but not exclusively. As in all these the same arrangement of the ducts is represented, an inference arises naturally enough in the mind of the reader—viz. that they were all probably copied from the same dissection. But by the text we also discover that Santorini, or his editor, or both, I rather think, considered the above arrangement as the normal one, and even dwelt on the trivial and unimportant circumstance (unimportant because liable to variety) of the ducts anastomosing with each other in the precise mode in which they are represented in this engraving. Of the "superior or upper duct," as he terms it, he thus speaks—"ut ductum hunc constantissime comperi, ita frequentissime in longiorem influentem aut si lubet effluentem dicere adverti ut alterutro inflato, sicuti etiam habet Graafius, uterque statum attolatur."—P. 15. Although disposed to consider this a common enough variety, it does not seem to me so well entitled to be considered the normal one as Santorini supposed.

But to return: after asserting this arrangement of the pancreatic ducts to be a very constant one, and dwelling on the circumstance, altogether trivial, of the short duct collecting some of the smaller ducts from the vertical portion of the gland, then joining the main duct, from which another short duct again proceeds to enter the duodenum by itself, considerably above the termination of the longer duct and biliary tube, the editor of Santorini proceeds to criticise De Graaf for not having laid sufficient stress on these facts; he accuses De Graaf of not having taken any notice of the short duct in his (De Graaf's) engraving, which is just as if he should find fault with an artist for having omitted that which, on the object before him, had no existence. He also asserts that De Graaf confounded the short or superior duct with the other small branches joining the main duct; but we shall afterwards find that De Graaf simply drew what he saw, and that these conclusions of Santorini's editor are incorrect, inasmuch as it frequently happens that the pancreas has but a single duct, into which none other enters of so superior a size to the others as to merit the name of *a small duct.* Further, this anatomist fancied that the pancreatic ducts had very constantly *two duodenal apertures;* assuredly he was much in error. But the truth is, that De Graaf knew better; he knew all these particulars to be mere varieties,

as I shall endeavour to point out in describing figure 4, which most nearly resembles De Graaf's engraving of the pancreas and its ducts.

A part of this critical history of the engraving of Santorini, and that not the least curious part, is, that both plates have been copied into M. Jules Cloquet's folio work without the smallest reference being made to the arrangement in the descriptive anatomy of the gland, so that the reader is startled by finding that the text and the plates do not accord, the text describing the duct as single; the plates showing it to be double*.

[To be continued.]

MEDICAL GAZETTE.

Saturday, October 12, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

THE MANAGEMENT OF HOSPITALS.

A SHORT time since we gave our readers an account of the general character of the scheme of hospital management, in Paris, as described in the report of the Medical Commission of 1838. It is but right that both sides of the case should be heard; and we will now, therefore, examine the counter report of a special Commission, not composed exclusively of medical men attached to the hospitals, but appointed by the general board of administration, to inquire into the truth of the heavy charges brought against them. We are indebted for our information on this report to our excellent contemporary and namesake, *La Gazette Médicale de Paris.*

The following statement may afford an idea of the amount of assistance given to the sick and infirm of Paris:—12,000 old and infirm people are admitted into the hospices; 76,000 patients pass annually through the hospitals (giving an average of about 4800 patients a day); 4600 foundlings are placed in a special asylum, 16,000 are maintained in the country, and more than 400 put to apprenticeship. Besides these, 30,000 indigent families receive private assistance. The returns of the Commission of inquiry into the public Charities of this country are not (at least in that part which relates to the hospitals) yet published; but we believe we may say that even allowing for the difference of population, and the fact that, *cæteris paribus*, the greater the population the greater will be the proportion of those requiring relief from public charities — allowing for these things, the number relieved in Paris is very far less than that of those who obtain assistance in London; so that in regard to the quantity of assistance afforded, a voluntary system would in this, as in many other instances, appear decidedly preferable to one dependent on public compulsory contribution. We of course exclude here the consideration of the protection and maintenance of foundlings—of whom there are more thousands publicly supported in Paris than hundreds in London. The strictness of our bastardy laws, effectually, though perhaps sometimes too harshly, restrains the licentiousness which the French system permits, and even encourages, in this respect; and considering how large a proportion of their charitable funds must be expended for this bad end, and what need there appears of pinching economy in their distribution, it is surprising that the administration should not curtail here, to enable themselves to

* Were I disposed to criticize farther, it would be easy to find room for it here. M. Cloquet has copied Santorini's dissected gland, whereby its true form has not been represented, for the undissected pancreas differs a good deal in its shape from the engraving of Santorini, which M. Jules Cloquet copied. Notwithstanding, therefore, the beauty of the original engraving in Santorini's works, there could scarcely be imagined a more incorrect view of the gland than he has given us.

be liberal towards the more deserving objects of their charity.

But for the *quality* of the assistance afforded to the sick and needy under the English voluntary, and the French compulsory systems—the character and talents of the medical attendants do not form a part of the inquiries of this commission; but we met with an observation a short time since which we shall take this opportunity of introducing to those of our readers who may still believe that the system of *concours* must be the most efficient in securing the services of the best men, and therefore that, in this respect at least, we are far behind our continental neighbours. The remark we allude to was made by M. Magendie, the liberality (to call it by the mildest name) of whose opinions is well known. "This style of teaching" (the sciences at the College of France, he says) "unavoidably requires a particular mode of electing the men who are to fill our chairs. The choice of the profession is not here trusted to the chances of the concours, *(aux chances du concours)*. It would not be sufficient, in a fortunate contest, to have surpassed some rivals; the whole philosophic world composes the jury*," &c. The chances of the concours! Why, the very and peculiar merit of the scheme used to be that it excluded chance—yet a French liberal acknowledges it inferior to the plan of electing a man according to his public reputation, the plan which it has been so fashionable of late to revile, and to regard as the bane of the medical schools and hospitals of this country.

We may assume, then, that in regard to the efficiency of the medical attendance upon the poor, our voluntary system is at least not inferior to the involuntary.

With respect to the yet more important matter of providing food and medicine, we find from this return that the expenses of all the establishments for the relief of the poor, mentioned above, are rather more than 12 millions of francs (nearly 50,000 pounds) a year, about half of which is obtained from their own resources, or endowments, and the rest from a rate paid by the town. The annual amount of the whole rate from which this sum is derived is at most 29 million francs; of which upwards of three million are paid to the treasury, five million for the interest and liquidation of the debt, and about two million in the expenses of collection, &c.; of about 17 million that remain, one-third is allowed to the hospitals, and other similar charitable establishments.

Now when it is considered that each of our royal hospitals possesses and expends an income of about one-fifth less than the whole hospital and other similar public expenditure of Paris, it is scarcely imaginable how, on the one hand, so many cases can be relieved at an expense comparatively so small, or how, on the other, an outlay so large can be disposed of to so comparatively small a number of objects of charity. Nearly 50,000 patients are on the whole relieved each year at each of the great hospitals of this metropolis, while at Paris 76,000 are relieved at the hospitals, and upwards of 30,000 children and old persons are constantly maintained, and 30,000 families occasionally assisted, for about one-fourth more than the annual expenditure of one of our hospitals. Nor let it be imagined that the outlay at our largest endowed hospitals is in any degree more profuse than at those which are chiefly supported by continued voluntary contributions. We know that on the whole the expenditure of all the hospitals in London, is at nearly the same rate, for the number of patients relieved. It is evident, therefore, that there must be on one side,

* Leçons sur les Phénomènes Physiques de la Vie, t. ii. p. 2.

wanton extravagance, or on the other most pinching penury. We shall most easily and most clearly find evidence of the latter in one particular of the calculations presented by this commission.

The previous (medical) commission had particularly pointed out the poverty of the regimen adopted at the Bicêtre and the Salpetrière, in the division of the old and infirm; and the administration itself acknowledges, in this report, the necessity of insuring them a more substantial supper. Now, say they, calculating the expense at five centimes (one halfpenny) a head, as there are about 8,000 individuals to be fed, there is an expense of 400 francs a day, or £6800 a year. The increase which the physicians solicited being granted, caused, although it was but a slight increase of supply, an addition of £1200 to the annual expense; from all which we learn, in a few words, that the old and infirm can be, and are, supplied with supper at the rate of six-tenths of a penny a head.

After this it need scarcely be said, that, although this last counter-commission denies in strong terms, and on apparently good evidence, the assertions of the medical commission of the destructive effects of the bad and scanty diet allotted to their patients—and although its members contradict or explain away a considerable number of the declarations of the medical men—yet they are far from justifying the present plan of feeding, and acknowledge that the milk is bad, and the bread ill-baked, and that the meat does not "come up to the sample," and that more green vegetables should be supplied, and that fresh butter ought to be used instead of salt; and some other things of that kind. Little more, perhaps, need be urged; the articles enumerated, and allowed to be bad, constitute probably the whole of the patient's diet; yet we cannot but wonder how even *they* can be supplied at the rate of so little more than one halfpenny a head for supper.

There does not appear to be any just cause of blame upon the hospital administration; the charges brought against them by the medical commission, of jobbing and of extravagance, where their own interest was concerned, were probably exaggerated, and for the most part unfounded. No one who looks at the income they have to expend, and the enormous number among whom it is distributed, will have much hesitation in according the French hospital administration great credit for their success, though he may regret that the assistance they afford is of necessity so limited, and dealt out with so close a hand.

In turning from the condition of hospital charity in France to consider its state in our country, one cannot but indulge a deep feeling of national pride. Stand where we may in this metropolis, we are almost in view of some institution founded and maintained by the voluntary gifts of our fellow-countrymen, in which assistance is dealt out to the needy with open and liberal hands, and where the poor are treated less as suppliants than as just claimants for relief. And why, if this great and good end be attained—why should we be so anxious to ferret out some corner in which there may be a little jobbing going on; or, at least, why should we make it the chief object of our regard, or think that a little flaw, which almost needs a microscope to exaggerate it into visible dimensions, mars all the beauty of the great edifice? Let it be granted that, in some cases, private interest is served; that this hospital is maintained by the friends and supporters of its physician or surgeon; that in that there is a governor who subscribed only that he might assist his

own trade, or serve his friend's interest; that another is, in some measure, upheld to gratify this or that great man: what are all these when compared with this great end—that thousands of the poor are assisted in their hour of need, relieved with a liberal hand, treated with kindness, guarded by talent, watched over with assiduity, and preserved from all the accumulative evils of diseased poverty. There is not, we are convinced, in the land, an object that an Englishman may justly regard with more complacency than our hospital establishments; nor is there a subject in which the political economist may find more stringent evidence in favour of a system of voluntary relief, than in the comparison which may be instituted between our hospital and our poor-law charity, or between the systems of hospital relief in France and England.

To our mind there can scarcely be a stronger case than is here presented; nor are the causes of the difference obscure. When a body of men have to expend the money which others have been *forced* to give, and when they know that the only feeling with which they are watched is one of anxiety lest that which was unwillingly entrusted to them should be carelessly or extravagantly expended, no wonder if they endeavour to acquire the only reputation that is possible—a reputation for economy; no wonder if, hearing on the one hand the groans of the taxed, who are strong, and, on the other, those of the afflicted who are weak, they pay attention only to the former. But it is far different when men expend that which is voluntarily given to them to dispose of; for they then only fulfil the wishes of the giver, when they bestow the greatest possible happiness upon the greatest possible number of receivers.

CLINICAL LECTURES

ON

OPHTHALMIA.

By M. Velpeau.

Reported for this Journal, by

J. Henry Bennet, B.L. & B.S.
Sorbon.

SEQUELÆ AND COMPLICATIONS OF KERATITIS.

Description of different kinds of opacity of the cornea.—Treatment.—Dieffenbach's operation.—Iritis.—Historical detail regarding the disease, first described by the German and English surgeons.

Ulceration of the cornea is always followed by a certain degree of opacity of that membrane. This opacity may be compared to the cicatrix which follows the ulceration of other membranes, and as it generally more or less impairs the visual functions, it has attracted much attention. Authors have described many kinds of opacity, but they may be all comprised in three species: the *nebula*, in which the opacity occupies only the superficial lamellæ of the cornea; *albugo*, in which the middle layers are also affected; and lastly, *leucoma*, in which the entire thickness of the cornea has become opaque. I may also mention another species of opacity which has been but little noticed by authors, probably because it offers no impediment to sight, the *senile zone* or *ring*.

The *nebula* consists in a slight opacity of the superficial lamellæ of the cornea. The word itself indicates the nature of the opacity; it may be compared to a slight mist or cloud, obscuriug, but not destroying the transparency of the membrane. This lesion is often confounded with the nephelion, or superficial ulcer of the cornea, the achlys of Galen, which, as you will remember, rests on a slight nebula. We may thus account for Scarpa's asserting that a nebula is always accompanied by slight vascularization of the conjunctiva, my own experience enabling me to say, that when the nebula is unaccompanied by ulceration of the cornea, the vascular appearance noted by Scarpa does not exist.

An albugo is an opacity of sufficient density to intercept the passage of light through that part of the cornea on which it is situated. The principal distinction between albugo and leucoma is, that albugo does not occupy the entire thickness of the membrane. It may be situated in any part of the cornea, is of a milky yellowish colour, and is met with as a se-

quela of intense chronic keratitis, of abscess, or of ulceration of the cornea.

Leucoma, generally the result of a cicatrix, of lengthened suppuration, or of intense inflammation, is not merely characterized by opacity of the entire membrane, but also by other modifications which the texture of that membrane undergoes. It becomes hard, callous, thickened, and its vitality is diminished.

The *senile zone* is a circular, opaque ring, natural in old people, occupying that part of the cornea which is immediately adjoining to the sclerotica. It cannot be attributed, properly speaking, to disease of the cornea, the structure of that membrane not being altered, nor its thickness increased; and as the functions of vision are not impaired, little or no attention is, in most instances, paid to its presence. This form of opacity, extremely common in old age, is occasionally met with in all other periods of life. It generally commences on the superior portion of the cornea, then invades the lower hemisphere, and it is only as the patient advances in years that the two arcs join laterally. With old people, the opaque ring is always separated from the sclerotica by a small interval of transparent tissue: but this is not constantly the case in younger persons.

Treatment.—The treatment of the various species of opacity of the cornea has been much studied by surgeons; nor need we be surprised, when we consider that the slightest nebula situated opposite the cornea, must, more or less, disorder the visual functions. The non-medical public entertain singular notions respecting the nature and the treatment of these lesions: nothing, indeed, is more common than to hear patients affected with opacity of the cornea complain of having a membrane over the eye, which they wish to be taken off. However ridiculous the idea may appear, we shall see presently that such an operation has not only been proposed, but even put into execution by some practitioners. You must remember that the public in general know nothing whatever about medicine, and that all the absurd ideas respecting the treatment of disease which are current in the world, have originated with medical men. Even those remedies which we call "old women's remedies" have been at one time employed by the profession; thus you will find that cow-dung, which they advise in inflammatory humours, is greatly extolled by Avicenna.

In most instances, opacities of the cornea are indelible; there is nothing to be done. Indeed the attempts which are made to remove an albugo, or a leucoma, often increase the gravity of the lesion. When, however, the opacity is merely a nebula, and one or two of the superficial lamellæ of the cornea only are affected, there is some chance of being able either entirely to remove it, or at least to increase the transparency of the membrane. The white matter, combined with the tissue of the cornea, instead of the transparent fluid which it generally contains, and the remedies which are employed being applied to the surface of the affected membrane, may penetrate and modify the nature of the effused matter. Among the therapeutic agents which are the most frequently resorted to with this view, are the various collyria employed in the treatment of ulcers of the cornea; as also the sulphate of zinc, calomel in powder, the solid nitrate of silver, Sydenham's laudanum, &c.

Some of these remedies, such as laudanum and the lunar caustic, enjoy greater reputation than others. They certainly may sometimes be used with success to dispel slight nebulæ, when there is no inflammation; but if they are employed whilst the inflammation of the cornea still exists, they nearly always occasion a renewal of the ophthalmia. The nitrate of silver, used as a caustic, was much praised, a few years back, by M. Lallemand, who advises the opacity to be slightly cauterized five or six times in the course of the month. I think, however, he must have mistaken for a nebula the superficial ulcer of the cornea or nephelion, against which cauterization generally proves successful. I have several times tried the nitrate of silver in the treatment of nebulæ, and constantly seen the malady exasperated.

In the last century, a surgeon, named Gouan, pretended he could cure nearly every species of opacity of the cornea with a liquid, the composition of which he kept secret. The secret was bought up, and this marvellous remedy turned out to be merely oil of walnuts. To support his assertions respecting its efficacy, he appealed to the authority of Linnæus, as also to the customs of the inhabitants of the Pyrenees, who had employed it against opacities of the cornea from time immemorial. The remedy had been long forgotten, when, a short time since, it was again brought forward by M. Carron-du-Villards, who makes use, however, of cod-oil, and not of walnut-oil. I will not take upon me to decide which is to be preferred; yet I must say it appears to me, that, if one is an efficacious remedy, the other cannot be much inferior. With regard to the therapeutic properties of the oil, I do not believe that it can cure any other form of opacity than the nebula.

Some surgeons have advised that the opacity, when it does not occupy the entire thickness of the membrane, be excised, or gradually worn away by scraping; but there are no facts before the profession to prove that such an operation has ever been successfully performed. Whether the opacity be worn away or excised, there must evidently remain an epicauma ulcer on the surface of the cornea, which, on cicatrizing, would itself give rise to opacity. The only case in which scraping or excision could be excused, is that in which a plastic ulcer leaves behind it, on the cornea, some coagulated lymph; and even then I would not myself resort to such a measure.

According to Mr. Jacob, of Dublin, the use of the nitrate of silver in the treatment of ulcers of the cornea is often followed by a blue coloration of the cicatrix; but the cases he brings forward do not, in my opinion, satisfactorily prove the fact. I have myself employed the nitrate of silver as a solution, as an ointment, or alone, in many hundred cases, without ever observing such a coloration. I know not, therefore, what to say, and can only explain the fact by supposing that the nitrate of silver must act differently in England to what it does in France.

The excision of the plexus of varicose vessels which often corresponds to the affected part of the cornea, has been much lauded by some surgeons, and especially by Scarpa, whilst others, on the contrary, look upon the operation as nearly useless. This diversity of opinion may, however, easily be explained. When the opacity is kept up by the deep-seated or sclerotic vessels, excision is useless; but when it is the conjunctival vessels only that are morbidly developed, their section may produce, as Scarpa says, extraordinary results. This we have already seen to be the case when excision is performed in chronic keratitis, and in ulcers of the cornea.

As a last resource, when an albugo or a leucoma exists which entirely intercepts the passage of light into the eye, a singular remedy has been proposed—the excision of the affected portion of the cornea, and the subsequent union of the lips of the wound by suture, or the substitution of the cornea of some animal. M. Dieffenbach, a surgeon in every respect worthy of confidence, told me that he had successfully performed the operation on a young girl seven years old. Having fixed the cornea with a small tenaculum, he excised at once the affected portion. M. Dieffenbach also said that he thought an opaque cornea might be replaced by that of an animal. This operation was formerly proposed by Pellier, who even says that he had successfully performed it; but I do not place much reliance on his statement, for he was a specialist, and those gentlemen have generally something more in view than the interest of science. The operation appears to me, I must confess, perfectly absurd; indeed, I am at a loss to conceive how it could originate in a properly organised mind.

Iritis.

It is believed by many that iritis is a disease known only to modern writers; but if we peruse the treatises on ophthalmology which are anterior to the present century, we shall find that the existence of inflammation of the iris has always been recognised, although it is only since the commencement of the nineteenth century that it has been considered apart from the other inflammatory affections of the eye. Some authors had, it is true, done more than merely mention the existence of iritis, but as they confounded it with various diseases of the eye, the descriptions they give are vague and unsatisfactory. The Germans and the English were the first to separate iritis from all other ocular affections, and to make it a distinct disease; but in doing so they have gone rather too far, their views being in my opinion too exclusive. Iritis exists, most certainly, as a distinct affection, and ought to be described as such, but, owing to the anatomical situation of the iris, it is hardly possible that it should be inflamed without the inflammation extending more or less to the adjoining tissues. It is, therefore, evidently necessary, in describing the malady, to take into consideration the various complications that may occur. At a future period we may be able to isolate completely iritis from all other inflammatory affections, but in the present state of science it is quite impossible to do so. Those, indeed, who have attempted it have invariably confounded, under the name of iritis, several inflammatory diseases which cannot in reality be referred to the iris.

Although it be to the German and to the English surgeons that we owe the first accurate description of iritis, you must not suppose that the affection was previously unknown to French writers. Maître-Jean speaks of it in very plain terms; Deshais-Gendron describes it in treating of the iris; Janin published a case of iritis in his work on ophthalmology, and several other authors have spoken more or less briefly on the subject. Beer, is, however, the first who carefully described iritis. Two years later Schmidt published an interesting memoir on the disease in question, and nearly about the same time Ware and Saunders, in England, and at a

later period, Mr. Travers made known the results of their researches. During the first twenty years of the present century France did but little towards the advancement of this branch of ophthalmology, but in 1820 M. Guillé (Dict. des Sciences Médic.) and M. Müller (Bibli. ophthal.) entered the arena, and in 1823, M. Gillet de Grammont gave in his thesis as good a description of the disease as can be met with in the works of any foreign author. Since then many surgeons have written on the subject.

From this slight historical sketch, it appears that iritis has long been known to French writers, who, however, confounded it with various inflammatory affections of the eye, but that it is to foreigners that is due the credit of having first carefully studied the malady, and separated it from other diseases. It yet remains to be proved whether, by passing from one extreme to the other, the latter have not to a certain extent impeded the progress of science.

On looking over the different statistical accounts of diseases of the eye that have been published, we are at first surprised to find that iritis is by no means as common with some practitioners as with others. The difference of opinion which still exists respecting this malady will, however, at once account for the circumstance. It is, indeed, extremely difficult to limit iritis, as many of the symptoms which are referred to it by some writers are attributed by others to inflammation of the choroid membrane, of the retina of the vitreous humour, or of the capsule of the crystalline lens.

I do not flatter myself that I shall be able completely to solve this pathological question, but as I have seen a great deal of the disease, and have attentively studied its characteristic symptoms, as also those of the inflammatory affections by which it is generally accompanied, the description which I am about to give may throw some additional light on the subject, and will, I think, give you more correct knowledge of the malady than can be gathered from our classical works on ophthalmalogy. There is, however, still much to be done before we can be said to have attained a perfect knowledge of this department of ocular pathology, to which I cannot too strongly recommend practitioners to direct their attention.

Iritis may, like all other inflammatory affections, be either acute or chronic. We will first study the acute form of the disease.

MEDICAL SCHOOLS

AT CAIRO, ATHENS, AND CONSTANTINOPLE.

The medical school of Egypt, which for some years has been located at *Abou-Zabel*, is now removed to *Esbekie*, in the immediate vicinity of Cairo; the former being too remote from the capital, to enable the professors, from their necessary duties in private practice, to do full justice to the institution. The school makes part of a large and well arranged military hospital, beautifully and pleasantly situated on the western bank of the Nile, in the suburbs of Cairo. This hospital contained thirteen hundred patients when we visited it. The immediate connection of the medical school with this large hospital, together making one great edifice, is in my opinion an admirable arrangement for the benefit of the pupils, and well deserving of imitation in other and more enlightened countries. The lecture rooms of the professors are all exceedingly well arranged, and the amphitheatre for anatomy is particularly well constructed, with abundance of light from a cupola on the top. A large and well arranged pharmacy, with specimens of every kind of domestic and foreign drug, while it abundantly supplies medicines to the wants of the hospital, serves as a means of instructing the students. A large laboratory is connected with it, in which the new chemicals, such as alkaloids, and others, are prepared, to answer the demands of the physicians, and at the same time extend information to the pupils, by making them acquainted with chemical pharmacy.

The number of pupils attending the lectures at the time of our visit was two hundred and sixty. They are not only attendants upon the lectures of the professors, but residents in the hospital, in order to observe the treatment of the patients, and to become familiar with the almost endless forms and features of disease.

They are all educated at the public expense, have their quarters in the hospital, where they eat and sleep, and are obedient to a regular military and medical discipline, and rank as *sous aides*, in the surgical staff of the army. Here they are compelled to remain from three to four years in the constant pursuit of their studies, and in the regular observance of disease, at all times obedient to the call of their superiors, and ready to administer to the wants of the patients.

The beautiful order and methodical arrangements, as well as neatness, in every part of this establishment, surprised

and delighted me. It unites the activity of the French, with the cleanliness and good system of the German hospitals, and therefore may be said to have the excellence of both.

The anatomical museum is very respectable, and will serve as the nucleus of a good collection. It consists mostly of bones, casts, and wax models, with the excellent tributary aids, of parts, and the whole subject, of the ingenious invention of Dr. Auzoux. From the expense of alcohol, and the great waste, owing to the excessive heat and dryness of the climate of Egypt, few or no specimens of morbid parts can be preserved as wet preparations. They are compelled to resort to drawings and wax models, to perpetuate their similitude.

The apparatus for the illustration of the physical sciences is neat, and sufficiently ample.

The Civil Hospital is situated in the city of Cairo, and is located in a spacious building, but recently one of the palaces of Mahomet Ali. It is placed very favourably for good air, near the principal square of this very curious and truly oriental city. It is an admirable transfer of the noble and superfluous domain of a single individual to humane and charitable purposes, to the wants, necessities, and the afflictions of the poor and the diseased. As the medical officers informed me, it had only been established about one year, and was but a beginning of an asylum, and a home, for the suffering and the sick.

It contained between two and three hundred patients, besides apartments especially appropriated for a lying-in establishment. Although there is a male and female department in the same building, there is the peculiar eastern vigilance, and harem-like care, that the females shall not even be seen by the male patients. On no pretence, whatever, is any male admitted into the female part of the hospital unless he be a professional man, and then he must accompany a medical officer of the establishment, who only has authority to introduce him.

Connected with this maternité, is a school for the education of young women, to fit them properly to be accoucheuses or sages-femmes. It has a well organised class of young females from the age of fifteen to twenty, under the care of a French professor, aided by a young Arab, whose acquaintance with the French language enabled the pupils to comprehend readily the lessons of the principal. The class consisted, on the day of our visit, of sixteen. They were dressed as Europeans, were very neat and respectable in their appearance, and exhibited various tints, and shades of colour, from the tawny Arab, to the jet black Nubian and Abyssinian.

They were all assembled in the class, at their lessons, when we entered, and were receiving instruction from the professor. Their note-books were in Arabic and French. I was requested to test the practical knowledge of one of them on the mannikin. One, the most convenient, and as black as ebony, was requested to come forward. Different questions in French were put through the young Egyptian, and on the machines the pupil proved by her manipulations with the fœtus, that she not only comprehended perfectly the question, but that she understood well the subject.

When their knowledge is thought sufficient, they are permitted to exercise the art upon the patients of the institution. In this way, after a residence of some time in the hospital, subjected to regular discipline and instruction, they become very competent practitioners of this branch of the profession. They informed me that all of them were educated at the expense of the Pasha, and that his object was to place them in the harems, and thereby dispense with male obstetricians; that Mahomet Ali, from time to time, was in the practice of purchasing young females at the slave market at Cairo, and placing them in the maternité for instruction. In this way he kept up a constant supply for the wants of the different harems of his family and favourites.

This establishment is undoubtedly founded upon the liberal and humane plans of the French, who annually educate, and send forth a large number of well instructed and competent young women, not only in every direction through their own provinces, but into other countries. It is to be hoped, that in Egypt, a more enlarged and liberal view will be taken of this system, and ere long that its salutary and benign influence will be extended far beyond the gardens and walls of the harems; and that the almost countless poor may receive something in return for what they labour so hard to support.

Every facility seemed to be afforded in this obstetric school, in preparations, apparatus and instruments, as well as the living subject, to make the pupils competent and useful practitioners.

An attempt is making at Athens, the present capital of the modern Greek empire, to organize a medical school, by several well educated and respectable Bavarian physicians and surgeons, who are attached to the court, and whom King Otho has induced to settle in his country. At the time of my visit, (April, 1838,) they had

from nine to twelve pupils, natives of the country, who were lectured to by the Germans in the modern Greek language; the professors, from a residence of several years in the country, being able to impart instruction to the pupils in their native tongue. Although it is the merest beginning of a medical school, it is nevertheless praiseworthy and honourable to its present founders, and may be the germ of an institution which shall move onward hand in hand with the regeneration of poor fallen Greece. It may be, that from this embryo of a medical school, in far distant time, the continent and islands may echo again with the fame of another Hippocrates, an Erasistratus, and a Heriophalus.

Athens possesses at this moment a most excellent military hospital, arranged upon the modern European plan, capable of containing very comfortably several hundred patients. Also a highly respectable and well arranged cabinet of Natural History.

Even in the mighty capital of the Ottoman empire, Constantinople, the light of medical science is beginning to dawn. A medical school is already commenced, under the sanction of the noble and enlightened Sultan Mahmoud. The teachers are all Europeans, mostly Italians, and they are giving instruction to from fifteen to twenty native pupils.—*American Journal of the Medical Sciences.*

POISONING BY MUSHROOMS.

On the 1st October, 1838, M. O. the father of a family, collected some mushrooms, which he said were of a good sort, in an orchard bordering on a sheet of water near his house. They were plucked, cut into bits, and steeped in water; they were then boiled in oil with sweet herbs, and made a large dish, which was served up at dinner at six o'clock.

M. O., the father, ate some before they came to table, and very plentifully at dinner.

M. O. the son, ate the greatest quantity next to his father.

Madame O., the mother of the family, of a weak constitution, and living very temperately, ate but few.

The grandson of M. O., aged six, ate a good many for his age.

Mademoiselle Julie, the niece of M. O. had but few, and Rose, the cook, tasted them while stewing.

The following were the symptoms experienced by each person:—

M. O., the father, passed the night well, and went out, feeling better than ever, at six in the morning, to walk in the park. About eight he felt uncomfortable; anxiety and nausea came on, and then vomiting of mucous and greenish substances, with bits of undigested food; with copious half-liquid stools, containing fragments of a spongy appearance. The vomitings were succeeded by retchings, with general weakness, coldness of the extremities, paleness of the face, burning thirst, and dryness of the throat and mouth. During the night, cramps came on in the calves of the legs and soles of the feet; the face was contracted, the limbs cold and livid; the urine was suppressed; and the pulse vanishing. From time to time there were intervals of sinking, but without drowsiness or delirium, and the patient was perfectly himself.

On the 3d, the cramps and vomitings had ceased; the liquid stools continued, but were less frequent; there was less colic; no pain in the head, and but slight tendency to drowsiness. Towards the evening, during the night, and particularly on the morning of the 4th, the symptoms, which had seemed to diminish, became frightfully intense; the alvine evacuations, though less frequent, were tinged with deep black blood.

Towards 6 in the evening, the debility made rapid progress, yet the patient still preserved his recollection. In spite of the active employment of stimulants, he sank, after a death-struggle which lasted thirty or forty minutes. M. Pallois [who narrated the case], did not see him till the 2nd, after the vomiting and purging had probably carried every particle of food out of the alimentary tube.

M. O., the son, was attacked on the 2nd, at daybreak, with vomiting, and had copious stools with but little colic. Repose, and the use of soothing drinks, and emollient clysters, were prescribed. Under the influence of these remedies, the symptoms, which were at first attributed to mere indigestion, lost their severity; but for five days running, the patient experienced retchings, mucous stools of greenish and blood-stained tints, coldness in the limbs, tendency to swoon, and considerable thirst, with dryness of the mouth; the pulse was very weak, but regular; there was a notable diminution of the urine, and considerable agitation with slight delirium during the night. These symptoms gradually increased. On the 4th day a stool was passed, consisting of blood almost entirely pure; yet there was a remarkable mitigation of the other symptoms, with a little diaphoresis during the night.

It was not till the evening of the 6th of October that the patient could be considered as out of danger; but he was still very weak, and passed liquid stools, the

colour of which, however, sensibly improved. He was not convalescent till the 8th.

During the course of his disease the symptom which harassed him the most was a want of sleep, which was not relieved by the slight narcotics given him.

Madame O. passed the night following the poisoning without feeling any inconvenience, but was severely ill afterwards. However, she experienced a fortunate reaction; the vomitings and purgings having entirely ceased. On the fourth day she was attacked with feverishness; and on the 6th of October, a bleeding from the arm to four ounces cured a dull and wearying headache.

The child, for three days, was seized with vomiting when he drank, and had watery stools of a greyish colour, without much colic; he continued weak and pale, and began to take a little light food about the fifth day after the accident.

Mademoiselle Julie had only frequent liquid stools of a greyish colour and fetid odour, with colic, nausea, and total loss of appetite: she grew pale and thin.

Rose, the cook, had several liquid stools without any bad consequence. The remains which she threw away in the evening on washing the dishes having been eaten the following morning by a young hound, he died in ten or twelve days, with vomiting, agonising pain, and convulsions. A cat in the house had the same fate.

M. Pallois having gathered mushrooms in the same place as M. O., and being assured of their identity by persons who were present, soon saw that they were of the kind called *agaricus bulbosus* by Bulliard; *amanita viridis* by Persoon; and *agaricus phallöides* in Chevallier's Paris Flora. Their popular names are *oronge* and *petite ciguë blanche*, (small white hemlock), and their poisonous action is the more terrible, as it is not felt, according to Vaillant, till 12 or 15 hours after the mushrooms have been swallowed; an assertion which is completely verified by the preceding facts. —*Bulletin Méd. du Midi.*

ON THE

TREATMENT OF DISEASE BY COLD WATER,

IN THE FOREST OF THURINGIA.

This method was employed in England towards the end of the fifteenth century* by Floyer. Long afterwards, in 1732, 38, and 43, it was imitated by Drs. Hahn, the father and son. It is now eight or nine years ago, that a countryman named Vincenz Preisnitz, after having tried it upon animals, set up the first establishment of this kind at Gräfenberg in Austrian Silesia, with the permission of the government; he was not long without competitors, as there are now thirteen or fourteen of these establishments in Germany.

M. Sachs, who remained for some time at Elgersburg and Ilmenau, which are at the entrance of the forest of Thuringia, gives their topography, reckons up, pretty nearly, the number of bathers, describes the regimen which the patients are made to follow, and mentions some diseases which have been cured there.

The programme of the day is nearly the same in all these establishments. At four, or half past four in the morning, perspiration is begun to be produced, which is doneby wrapping the patients, like babies in swaddling clothes, or like mummies, in large and thick blankets. Perspiration usually begins in an hour, and is kept up by making the patients drink several glasses of cold water every half hour. In many cases, when the perspiration is at its height, pieces of cloth dipped in cold water, and previously well wrung, are dexterously introduced under the blankets, and applied to the most diseased parts; these parts, as well as the cloths, grow hot, the perspiration soon begins afresh, and causes a sensation of burning in the part.

At the end of three hours the blankets and bed are soaked with perspiration; the patients are then conducted into a neighbouring room, or to another story, where they take their cold baths; and in doing this, they often pass through draughts of air without being inconvenienced. Before plunging into the cold bath, they wash their head and chest; and after staying in it two or three minutes, the patients take a few cups of milk with a little bread, and then walk out upon the mountains which border on the establishment, and drink cold water at the numerous springs which they meet upon their route. About nine or ten o'clock they take the douche, or else walk to the cascades which are in the forests or mountains, and expose themselves to the fall of the water that comes down from a height, and strikes the body with great force. Immediately after dressing, they again drink several glasses of water, and then walk in the open air.

It is natural that after such exercise the patients should sit down to table with a good appetite, and one easily sees that persons labouring under piles, or hypochondriacs, hysterical subjects, or overworked persons, must find in these establishments a cure which they would in

* This is a mistake; Floyer wrote in 1702.—*Translator.*

vain seek elsewhere. As to rheumatism, arthritis, cutaneous diseases, inveterate syphilis, &c., we will say with M. Hoffmann, *experientia præcedit, ratio sequitur.*—*Berlin Med. Centralzeitung.*

STATISTICS OF TRACHEOTOMY.

Since the introduction of trachcotomy in croupal affections into France, there has, doubtless, been reason to deplore a great number of failures; it may be presumed, however, that one of the chief reasons of its insufficiency depends on the delay and the obstacles that are generally thrown in the way of its performance. The following are the results which the different most celebrated operators have by their own declarations, in a late discussion at the Royal Academy of Medicine in Paris, obtained.

	Operations.	Cures.	Deaths.
M. Amussat .	6	0	6
Baudelocque	15	0	15
Blandin . .	5	0	5
Brettonneau	18	4	14
Gerdy . . .	6	4	2
Roux	4	0	4
Trosseau . .	80	20	60
Velpeau . . .	6	0	6
	140	28	112

So that, of 140 patients operated on, 28 only have been cured, and 112 have died. —*Journal des Connais. Méd.*, and *British and Foreign Medical Review.*

ON TORSION OF THE ARTERIES.

Dr. Remak recommends a modification of the operation of torsion of the arteries, which consists in seizing the vessel transversely with a pair of sharp wedge-shaped forceps, and then pressing forcibly, so as to divide the internal coat. The extremity of the artery is then seized with another pair of forceps, and twisted, while the torsion is prevented from extending up the artery by the first pair. The vessel is thus less injured than in the common proceeding, and the internal coat, which shrinks after being divided, offers an effectual barrier to the blood. The operation was tested experimentally upon a horse: the carotid was divided, and torsion, performed as recommended above, was sufficient to restrain the hemorrhage, even when the horse was made to trot briskly.—*Medicinische Zeitung*, No. vi., and *British and Foreign Medical Review.*

BOOKS RECEIVED FOR REVIEW.

A Few Minutes' Advice to Deaf Persons, &c. By a Surgeon Aurist.

Londres Ancien et Moderne, ou Recherches sur l'état physique et social de cette métropole. Par A. M. Burcaud-Riofrey, D.M.P. &c.

Dictionary of Materia Medica and Practical Pharmacy, including a Translation of the Formulæ in the London Pharmacopœia. By William Thomas Brande. Parker.

Dr. Gregory's Practice of Medicine, 5th edition, revised and enlarged. Renshaw and Churchill.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Sept. 26, 1839.

William Henry Brown, Lewisham.

Thursday, Oct. 3, 1839.

William James Warren, South Brents.—Edward Andrews, Windsor.—Henry Everett, Sheerness.—George Murton Tracy, Sittingbourne.—Herbert Roe, Market Street, Herts.—John Wilson, Yorkshire.—W. Everard Creasy, Edenbridge, Kent.—James Henry Martin, Bridgnorth, Salop.—Chs. Latham, Sandbach, Cheshire.—Jonas Wimpenny, Holmfirth, Yorkshire.—Robert Wm. Hodgson, Northallerton, Yorkshire.—Richard Rowland Allen, Heanor, Derbyshire.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Oct.* 8, 1839.

Age and Debility .	12	Heart, diseased .	2
Asthma . .	2	Hooping Cough .	4
Childbirth . .	2	Inflammation .	8
Consumption .	36	Bowels & Stomach	4
Convulsions .	16	Brain . .	4
Dentition . .	1	Lungs and Pleura	2
Dropsy . . .	6	Insanity . .	1
Dropsy in the Brain	3	Measles . .	3
Dropsy in the Chest	1	Mortification .	1
Epilepsy . .	1	Small-pox . .	1
Fever . . .	7	Thrush . .	2
Fever, Scarlet .	15	Unknown Causes	76
Fever, Typhus .	1		
Hæmorrhage .	2	Casualties . .	4

Decrease of Burials, as compared with the preceding week . . . 6

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Sept.	Thermometer.	Barometer.
Thursday . 26	from 50 to 65	29·77 to 29 80
Friday . . 27	44 59	29·83 29·70
Saturday . 28	50 59	29·50 29·48
Sunday . . 29	36 59	29·55 29·69
Monday . . 30	35·5 59	29·73 29·89
Oct.		
Tuesday . . 1	40 61	29·88 29·84
Wednesday 2	42 63	29·64 29·76

Wind, S.W.

Except the 2d, generally clear. A little rain fell on the 26th and 28th ult. and 2d inst.

Charles Henry Adams.

W. Ogilvy, Printer, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, OCTOBER 19, 1839.

THE CROONIAN LECTURES

For 1839.

By John Clendinning, A.M. & M.D.
Of Oxford, &c.

As delivered at the Royal College of Physicians, May 15, 17, 22.

ON THE DIAGNOSIS OF DISEASE OF THE HEART.

Pulmonic complications.—Emphysema; Œdema.—Percussion should be studied first on the Dead.—Diagnostic value of Percussion.—Laennec too sanguine.—Hepatic complication.—Jaundice.—Renal complication.—Encephalon.

Pulmonic complications.—In the course of last year's observations I pointed out the great frequency of lung disease in chronic heart affections. I stated on that occasion, that in the great majority of my observations *post mortem*, omitting all reference to my much more numerous facts observed during life, I had found the anatomical conditions of chronic bronchitis, usually of both lungs and of every lobe, but often best marked in the lower lobes. I also stated that, in addition to the subinflammatory and hypertrophous condition of the bronchial lining membrane, I had, in a very large proportion of cases—a number considerably exceeding the half of the well-developed cases—met with those bronchial and vesicular morbid conditions described by Laennec as emphysema and œdema pulmonum. Further, I found that phthisis was associated with enlargement of the heart in a considerable proportion of cases, viz. in something like 12 or 14 per cent. of all the cases of cardiac hypertrophy ascertained *post mortem*; while some 10 per cent. had pneumonia, and something less pleuritis.

Now, with respect to the former, or bronchitis, including bronchial congestion with rhonchous breathing, whether with or without troublesome cough, according to my experience, it is quite a regular attendant upon, and may, in conjunction with others, be considered a very useful sign of, chronic disease of the heart. Traces of bronchitis are usually met with, according to my experience, in the hypertrophy of the heart from an early period. The tendency of the diseased heart to associate with itself a pulmonary catarrhal state is shewn in several ways:—

1. By their usual coincidence, as shewn by unequivocal symptoms, and morbid appearances in the class of confirmed cases. This has been already last year, and in the preceding pages, insisted on.

2. By the general liability amongst cardiacs, even in early stages, to cough, with the wheezing or otherwise noisy respiration of bronchitis over more or less of the chest, especially the central parts.

3. By the frequent coincidence of morbus cordis with the paroxysmal pulmonary congestion and neuralgic pectoral distress, with palpitations or other cardiac irregularities, that seem the principal immediate causes of the agonies of asthma.

The presence, then, of catarrhal symptoms, obvious or obscure, is a valuable rational sign of disease of the heart, subject, indeed, like all other functional lesions, to restrictions and exceptions in their application, but yet such as, in chronic pectoral disease, to strengthen very materially, or weaken, the probabilities of morbus cordis. In fact, I incline strongly to the opinion, that where phthisis or pneumonia, pleuritis or bronchitis, recently supervening on a previously sound subject of mature years, cannot be made out, the presence of a chronic pulmonary catarrh affords strong rational evidence, not to be overruled by any

thing less than satisfactory physical signs of a normal condition of the heart.

Emphysema; Œdema.—Not identical, but very closely connected with chronic bronchitis, are two morbid pulmonary conditions, which, like bronchitis, have been already adverted to under another head, but which it will be proper here again to notice shortly—namely, emphysema and œdema pulmonum. Of the frequency of coincidence of each of these morbid conditions with cardiac hypertrophy, enough has been already said to render it unnecessary here again to insist on it. Suffice it now to say, that few advanced cases of the disease have by me been found quite free from either complication. My object in alluding to them now is merely to point them out as auxiliary means in the detection of enlargement of the heart.

For this purpose a careful examination of the principal regions of the chest is always necessary. The parts most important to examine are—for *emphysema*, the apex and margins of the lower lobes; and for *œdema*, the more central parts of all the lobes. For the detection of either, both percussion and auscultation are equally recommended, so far as I know, by all recent writers on the diagnosis of pectoral diseases; but I imagine the apparent unanimity of authors on this subject is partly attributable to the involuntary practice of copying or borrowing of opinions, rather than to coincidence of results of independent observation; since I find it difficult to understand how several original observers should arrive, in an inquiry so surrounded with sources of fallacy, at conclusions so nearly identical. But, be that as it may, I can truly affirm, according to my observations, that for the detection, in persons not very corpulent, of either emphysema or œdema pulmonum, auscultation is of little use, except as an auxiliary of percussion. Emphysema, when fully developed, is detected almost at once, by the practised hand, by percussion alone; and in a considerable class of confirmed cardiac cases there is nearly equal facility in detecting œdema,—to those, at least, that have practised percussion, so as to familiarize themselves with the ordinary resonances of the different regions. The results of a few taps with the open hand, or on one or more fingers, as pleximeters, on the pectoral regions most liable to the morbid condition sought for, are, when taken in connexion with the history and rational signs, sufficient in such cases to determine, without auscultation, whether any extensive and important alteration of density be present in the lungs. But the familiar acquaintance with the normal resonances just referred to is not easily acquired in the clinical ward.

Percussion should be studied first on the dead.—The best place for our first lessons in all those parts of the physical semeiology that do not, like the murmurs of the heart, involve vital actions that admit of no substitute or imitation, as necessary conditions of their development, is the dead-house; and the best subjects of observation are bodies of persons dead of known diseases. That this is correct will be obvious, when we consider what are the conditions of pectoral resonance—whether obscure and fleshy, or soft, loud, and hollow *. The conditions are these; viz. an impulse from without is transmitted through a substance more or less porous and penetrated by gases; extremely porous, like emphysematous lung, or little porous, like hepatized lung, or moderately porous, like healthy lung; and with the reaction, or reflected impulse, a sound is sent back, and uttered at the surface struck upon; and the character of this sound is determined by the degree of porosity of the parts from whose reaction it emanates. Now this process, or genesis of sound, includes no vital act whatsoever on the part of the subject of observation. For any examination, therefore, of the condition of the pectoral viscera, that can be effected by percussion simply, the dead subject is obviously as suitable as the living, with these advantages, however, in favour of the dead—viz. that the pectoral porosity is uniform in the latter, as are likewise all the other physical conditions of resonance; whereas, in the living, the relative proportion of fixed and gaseous matter in the thorax is in a constant state of fluctuation, from maximum to minimum, and *vice versâ*. And there is further in the dead subject this capital advantage for the uneducated ear, viz. that after full and leisurely examination of the chest, immediate application can be made, while every impression is yet recent, of the only test by which the accuracy of our inductions can be unequivocally ascertained, viz. inspection, manipulation, &c. of the organs whose density it is desired to test by percussion. And this line of observation is applicable to other parts of the pectoral diagnosis; for the like reasons might, *mutatis mutandis*, be urged in favour of the study *in mortuo* of the respiratory sounds, and of what is always of vast, and sometimes of paramount importance, viz. the degree of expansibility and permeability by air of the

* See a paper, by the author, communicated to the Lond. Med. Gaz. for Jan. 7, 1837, "On Percussion, and the Causes and Conditions of Pectoral Resonance."

pulmonary lobules and substance in general; for the vital actions concerned in respiration may, to a great extent, be imitated as to their effect, by artificial inflation of the chest through the trachea, so as to produce all Laennec's rhonchi, and cause pulmonary penetration and expansion by air, perceptible to the ear, eye, and hand, and closely resembling the physiological actions. In the same way, *mutatis mutandis*, can the modifications of the voice be imitated with more or less ease and completeness. But to return from this digression.

Diagnostic value of Percussion.—For the detection of fully developed and extensive emphysema or œdema pulmonum, percussion is, therefore, for practical purposes, sufficient in persons of ordinary fleshiness, without auscultation or other aid than the history and present rational symptoms, such as cough, expectoration, occasional dyspnœa, &c. But when, as frequently happens, owing to corpulence, &c. either of the diseases under consideration is suspected, and yet percussion is found not decisive of the question, auscultation may generally be advantageously employed as supplementary to, and in a great measure corrective of, other means. The object of the auscultator should be, the ascertaining the degree and extent of the permeability to air of the lung, by getting possession of which he is enabled to avoid important sources of fallacy, that in certain cases beset percussion employed alone as a test or physical sign of the density, whether normal or otherwise, of the lungs. For example, when percussion gives a hollow resonance, apparently but not certainly exceeding that of a healthy lung, the expansibility and diffusion of respiratory sounds in the part examined, as ascertained by the ear or ear-tube, shews whether the quantity of air that penetrates the lung is less than normal; and if less, we are entitled to conclude that emphysema exists. On the contrary, when the resonance is apparently less than normal, with rational signs indicating, though perhaps indistinctly, œdema pulmonum, the application of the ear or tube readily detects the respiratory sounds indicative of a penetration by air, such as would not occur in a consolidated lung; and under such circumstances we are warranted in infering *œdema*.

Laennec too sanguine.—To an extent, such as just explained by examples, there can be no doubt of the value of auscultation in the investigation of the diseases under consideration; but any further advantage I have not been able to derive from the ear-tube in such cases. Several distinct modifications of respiratory sound, that have been insisted on by Laennec, and on his authority, I imagine, for the most part, adopted by subsequent writers as diagnostic of emphysema and œdema respectively, appear to me of doubtful utility. Often and often have I heard that illustrious observer dilate on his rhonchuses and crepitations as the best of all signs, amongst other pectoral diseases, of those under present discussion. But whatever I may have thought in the Salle of La Charité formerly, as a student, I now, as a practitioner, think that it was a weakness on the part of that great pathologist not to be contented with making great discoveries, from a desire to excel also in small matters. It is to be regretted, I think, that after completing the discoveries of Avenbrugger, and adding others equally important, and much more various, curious, and interesting, of his own, he refused to rest, or to exercise his sagacity in pursuit of high objects in other unexplored quarters, leaving, as he well might be expected to do, the drudgery of details, and the pursuit (so to speak) of *deducibles*, to the host of satellite pathologists that followed in his train; but continued to labour to bring to minute perfection these precious inquiries, whose general success is his best monument. For though singularly gifted for observation, he has, among the hosts of individual phenomena passing under his notice, frequently fallen into errors, which, in numerous instances, even in his high and well-deserved authority, has not saved from detection and exposure; and has, I think I may say as a general remark, in his eager study of details, often lost sight of great and leading truths, discovered or best developed by himself. Of this observation we have exemplification in the exaggerated importance attached by him to certain modifications of the breathing sound, under the name of *rhonchi* or *râles*, and the comparative neglect shewn to the relative degrees of penetrability and expansibility in the different lobes and regions of the lungs, whether with or without unusual breathing sounds. Now the extent of diffusion of air in a lung in breathing, or the amount of its alternate expansion and collapse, are obviously direct measures of its normal or defective porosity and penetrability; whereas the character of the breathing sounds, or *râles*, can, at best, only indirectly elucidate the lungs' physical condition, and may, with a few exceptions, be presumed to be, as I have myself found them, fugacious, variable, and subject to so many sources of fallacy, that they may be said, in most cases,

to suggest the possibility, rather than announce the existence, of the organic conditions they have been held to indicate.

And if these critical remarks on the doctrines of the illustrious Laennec have any just application at all, they are to none more applicable, perhaps, than to his account of the signs of emphysema and œdema, detected by the ear-tube. The characters and mode of observation of those signs I studied for some time under the professor himself, and since then have had ample opportunities of further observation, and the conclusion I have come to is, that the auscultatory signs of Laennec are of little substantive value in the diagnosis of those pulmonary diseases that involve diminution of density, as emphysema; or increase of density, without carnification, as œdema; that in some such cases they will be found useful auxiliaries of percussion and other signs; but that in no case (except *incipient* pneumonia or bronchitis) can they be considered as principals, or otherwise rendered available than as subsidiaries to the use of the pleximeter, &c.

Hepatic complication.—Hepatic enlargement is another feature of cases of morbus cordis much insisted on last year. The occurrence of this complication I was able to shew, by a large induction of my own, confirmed by reference to several authors of weight and authority. In fact, it is rarely absent in decided enlargement of the heart. The position of the liver with respect to the lower margin of the ribs, is, I think, the usual test by which the development of the liver, whether morbid or otherwise, is judged of. It is commonly held that if the organ project far towards the umbilical region, from under the ribs, it must be abnormally large, and this even, I think, in the absence of any well-marked inflammatory tenderness in the hepatic region. Of the upper boundary, however, of the organ's place, no account is usually taken. Thus it is plain a large liver well sustained superiorly, or strongly pressed upwards by tympanitis or ascites, might pass for small or normal, and a small liver pushed down by pleuritis or emphysema above, or by stays outside and around, might pass for abnormally large; and the fallacies arising out of this variability in the liver's situation can only be avoided in doubtful cases, by careful measurement by percussion, of the extent of the hepatic region actually occupied by the liver. By such means we can usually with ease satisfy ourselves of the hepatic developments, and can, in suspicious and doubtful cases of chronic pectoral disease, very often obtain valuable presumptive evidence.

From the researches so often alluded to, it appeared that hepatic enlargement was a common complication of phthisis, though to a less extent than in morbus cordis. The presence, therefore, of excessive hepatic developments will not, if phthisis be not excluded, contribute much as a rational sign towards cardiac diagnosis. It is true that phthisis and morbus cordis are pretty often combined, and the combination is often extremely embarrassing, owing to the number of points both as to physical and rational signs that are common to both diseases. But the distinctive characters, even though in combination, are not often difficult to trace; for there has been hæmoptysis, perhaps, and the breathing and perhaps the voice, may denote a cavity; or there is a circumscribed dulness of resonance and inspiration, at each or either apex, especially in the subclavian or axillary or supra-spinous regions, or in all three; while the lower lobes afford more nearly normal resonance and murmur than the upper. Then as to morbus cordis, there is perhaps an abnormally extended ventricular impulse, or an abnormal excess or defect of valvular sound; and at all events, there is, if heart disease be present, an unusual extent of dulness in the cardiac region; or other sign or signs, rational or physical, of morbus cordis. So that any hepatic enlargement occurring in a suspected disease of the heart complicated with phthisis, would be more or less available as a rational sign of the former, notwithstanding such complications.

Jaundice.—Of the hepatic disease under consideration, when doubted of, owing to want of practice on the part of the observer in the mechanical method of diagnosis, or to other causes, the occurrence of Icterus affords not unfrequently useful confirmatory though indirect evidence. Doubtless a transitory retention or re-absorption of bile may happen with a normal hepatic development; but in organs of low vital power, and sluggish sensibility and circulation like the liver, well-marked and important functional lesion rarely arises from slight causes, and is rarely unconnected with morbid visceral conditions, involving excessive, if not otherwise vitiated nutrition. And in accordance with this view, I think it will be found, that the occurrence of jaundice in the course of chronic pectoral disease of an asthenic character is a rational sign of an hepatic enlargement, dependent on and indicative of cardiac disease, of not less value than many sympathetic functional lesions handed down from antiquity as pathognomonic, and still had in good repute.

Renal complication. — Not only are the heart and liver enlarged in morbus cordis, but my observations shew that the kidneys also become abnormally developed. Of this likewise I produced last year some confirmatory evidence from authors of authority; and to these already named and referred to, I might add the distinguished name of Dr. Christison, who from his recent work on the Kidneys, seems to have often seen, if I rightly recollect, the renal enlargement under observation. But though the connection between morbus cordis and renal disease is pretty well established, still the situation of the kidney, deep-seated and inaccessible as it is, would too frequently put it out of our power to make any use of the renal complication as a sign, were it not that the secretions of the kidneys are apt to suffer change while the kidney is being over nourished, and that Albuminuria is a very common attendant on cardiac disease. On one occasion I examined on the same day the urine of several persons who had cardiac dropsy, amounting to some half dozen or eight persons, and with one exception only found the urine albuminous in every instance. The exceptional case it is right to state was a well marked case of heart-disease. The frequency of coincidence, then, of albuminuria with disease of the heart, is sufficient to constitute it one of the signs of that disease. This position has already been virtually laid down by Dr. Christison, who has observed very generally that the renal disease called "Bright's Kidney," involves or implies disease of the heart. Professor Christison indeed is so strongly impressed with the closeness of the relationship between those diseases, as to have conceived like myself that one is the cause of the other. To the question, however, which is effect, and which cause, he has, I regret to perceive, given an answer nearly or exactly the reverse of what I should have given. Dr. Christison's opinion seems to be that the cardiac enlargement is an effect of the renal disease. What the grounds of that opinion are, he has not, I think, distinctly stated. But whatever they may prove to be when published and open to remark, I am prepared to avow before hand, my conviction, that like every thing that I have yet seen from the same pen they will be found to deserve an attentive and respectful consideration.

Encephalon.—The next important complication commonly met with in cases of old heart disease is hypertrophy of the brain. Of this coincidence of cerebral and cardiac disease I adduced last year experimental evidence, both from the observations of my late lamented colleague, Dr. Sims, and from my own, which, in the absence of any countervailing facts, may be held to be provisionally decisive of the question. For the present I shall assume the connection as proved, and proceed to make a few observations upon it as a rational sign of heart disease. Before doing so, however, I may be allowed to observe, that I have as yet been unable to satisfy myself as to the mode in which the adventitious cerebral matter is most generally distributed; whether the brain so hypertrophied is enlarged in volume or increased in density. The results of thirty or forty observations were communicated to the College last year, but it was at the same time stated, that I was by no means satisfied of the trust-worthinesss of those results as correct averages, or even very close approximations to correct averages. Since that time circumstances already distantly alluded to have interrupted my researches during considerable periods, and I have been as yet unable to repeat my experiments relative to specific weight sufficiently to obtain the additional data required. The problem, however, is one of some importance, and I shall persevere in searching for facts, until I shall feel myself in a situation to solve it.

But to revert to the subject of cerebral hypertrophy as a source of functional lesions indicative of cardiac disease, the following may, I think, on that point, with much confidence be stated, viz. that the frequent occurrence, in the course of pectoral diseases, not clearly wholly pthisical, of head symptoms indicating encephalic plethora, whether arterial or venous; for example, such as headache, vertigo, tinnitus aurium, ocular spectra, vague sensations about the head of rushing, heat, noise, &c., or of the graver symptoms of convulsion, coma, &c., implies, in the great majority of instances, increase of weight and volume in the heart; also, that the proportion of ascertained heart cases in which symptoms the same, or of the same meaning with those just mentioned, have not appeared, is so small, comparatively speaking, that there need in my judgment be no hesitation about adding such cerebral functional lesions to the number of the rational signs of morbus cordis. And the weight of such probable evidence of heart disease is the same, I conceive, whether the vital condition of the heart be sthenic or the reverse. For except in intensity and urgency, there does not appear to be any important difference between the cerebral effects of venous and arterial plethora. Either may lead to inflammation or hæmorrhage, and

either may, of course, be a cause of any of the cerebral functional lesions above named.

With respect to the influence that might be supposed to attach to one side or one ventricle of the heart, more than to the other, I am not aware that any such difference of influence is of much importance. An important morbid change in either ventricle is, sooner or later, sure to derange more or less the cardiac action in every part, and through their centres, the ventricles, to spread disorder over both lesser and greater circulations; so that though disease commence on the right, the morbid action will soon extend itself to the left also: and if it begin, as it commonly does, on the left side, the right cannot be expected long to continue exempt. And thus, whatever may be the starting point, the cerebral circulation at first, and ultimately the cerebral nutrition, appears to become affected.

In this respect the brain seems to stand in the same relation to the diseased heart as other viscera, of all of which it may, and so fas as I can see without important exception, be observed, that their increased development occurs nearly equally, whether the right or left side appear to be principally diseased.

Three or four other topics remain still to be observed upon, viz., the pulse, sex, age, and dropsical complications.

CLINICAL LECTURES ON OPHTHALMIA.

By M. Velpeau.

Reported for this Journal, by

J. Henry Bennet, B.L. & B.S. Sorbon.

SEQUELÆ AND COMPLICATIONS OF KERATITIS.

Acute iritis.—Symptoms.—The various forms of iritis.—Causes of acute iritis.—Termination of iritis.—Prognosis.—Treatment of acute iritis.—General treatment.

Acute Iritis.

Acute inflammation of the iris may commence either by the anterior or serous, or by the posterior or uveal surface of the organ, or by its parenchyma. I shall, however, lay but little stress on the symptoms which distinguish these shades of inflammation, as in the present state of science the distinction can be but of very slight importance in a practical point of view. Indeed, in a membrane so thin as the iris, inflammation cannot long remain confined to one region; it must at an early period invade the entire membrane.

Acute iritis may be considered to present three stages. Were there but few symptoms present, such a division would be useless; but as the symptoms are on the contrary extremely numerous, it will prove an useful adjuvant to the memory.

Symptoms.—The symptoms of iritis are generally divided into two classes—the anatomical and the physiological. The anatomical symptoms are those that can be appreciated by the eye of the surgeon; the physiological symptoms are those that depend on functional disorder of the organ, most of which can only be appreciated by the patient himself.

The *anatomical* or *objective* symptoms are numerous, and may also be divided into two classes; those which are to be referred to the inflamed organ, and those which are furnished by the adjoining tissues; such as the sclerotica, the cornea, the conjunctiva, the anterior chamber, &c. The symptoms which are given by the iris itself are more difficult to appreciate than those which we observe in keratitis; they are, indeed, in many instances, so fugacious, that until you have often seen the disease you will find it difficult to recognise their presence. They depend on the diameter of the pupil, on its form, its mobility, its colour, its thickness, and on the appearance which its surface presents. In the first stage of the disease, which may be said to extend over the two or three first days, the pupil contracts slightly, and loses in some measure its mobility, without, however, there being any visible alteration in its form. When the inflammation occupies one eye only, you will at once perceive the change that has taken place by comparing it with the other; but when both are affected it becomes extremely difficult to discover whether the pupil is or is not contracted; and were there no other symptom, the diagnosis would be very uncertain. As, however, the mobility of the pupil is always impaired when the iris is inflamed, it is possible to ascertain the real state of that organ by exposing rapidly to the light the eye, previously obscured for a few seconds. If the iris is healthy it immediately contracts; if, on the contrary, it is the seat of inflammation, contraction does not take place, or is very imperfect. As the inflammation increases, the contraction of the pupil appears more decided; it becomes at the same time perfectly immoveable, and the various preparations of belladonna lose nearly entirely the influence they exercise over its motion

in the healthy state. The colour of the iris also undergoes modifications which ought to be attentively studied, although they are not of the extreme importance which they are supposed to be by the German ophthalmologists. The iris presents three zones or rings, one of which is situated near the pupillary or inner circumference of the organ, another near the ciliary or outer circumference, and the third is intermediate. The colour of the pupillary zone becomes modified before that of the external and intermediate zones, the nature of the change which takes place varying with the natural colour of the iris. Thus, it assumes a grèenish tint when the iris is naturally blue; becomes, on the contrary, brown when the iris is grey, and brick-red when the iris is brown. These various hues also soon become visible on the ciliary zone. Between the two may be seen a network formed by numerous small vessels, which converge as they pass from the outer to the inner zone, and are crossed transversely by other vascular filaments. When the inflammation is acute these vessels become more and more injected, and form a red zone between the two, which I have just described.

The texture of the iris is also modified, that organ becoming turgid, and thicker than in the natural state. Its anterior surface, which when healthy is smooth and polished, seems as if it had been macerating in some fluid, the small furrows which it presents disappearing, or otherwise it assumes a velvety appearance, and presents numerous specks of different colours.

The iris itself is not the only organ that is modified when it is the seat of inflammation; the adjoining tissues always undergo more or less alteration. The transparency of the cornea is slightly impaired. The sclerotica presents the vascular radiated zone which I have already described as a symptom of keratitis; but it is much less manifest than in that affection, unless, however, the iritis be accompanied by inflammation of the cornea. This radiated zone does not advance on the sclerotica as far as the cornea, from which it is separated by the arthritic circle. The conjunctiva is in general but very slightly injected.

The physiological or subjective symptoms are also of great importance in forming our diagnosis of the disease. From the first the patient feels pain, more or less severe, in the orbit, as also in the forehead and temples. If the inflammation becomes intense, he often complains of throbbing in the eye, and of an extremely painful sensation of distension of that organ. Fear of light, and shedding of tears, are also observed at an early period of the disease, but these symptoms are seldom as intense as in some other inflammatory affections of the eye, as, for instance, in ulcerated keratitis. M. Suhel does not allow that photophobia and epiphora are symptomatic of iritis, and says that when they are present it is because the iritis is accompanied by retinitis. But his views on this subject are certainly erroneous; it is extremely rare to meet with a case of iritis that does not present photophobia and epiphora to a certain extent: as might be anticipated, from the anatomical symptoms of the malady, vision is always more or less disordered.

The general symptoms in iritis are very variable: sometimes there is no reaction whatever; sometimes, on the contrary, there is fever, thirst, loss of appetite, &c.

The second stage of the disease is characterised by the exacerbation of all the symptoms which I have enumerated; the diagnosis, therefore, becomes much easier. The contraction of the pupil gradually increases; and, losing its circular form, it assumes an angular shape. This change in the form of the iris constitutes one of the surest and most convincing proofs of the existence of iritis, and when it is observed it is next to impossible not to recognize the nature of the disease. We cannot, therefore, be surprised that German ophthalmologists should have made it one of the principal characters by which the various specific forms of iritis which they describe may be distinguished from one another. When the form of the pupil is thus altered, it may represent a lozenge, an oval, an ellipsis; indeed, it may assume nearly every possible variety of shape, the modifications which it thus undergoes depending, according to their ideas, on the cause which has produced the iritis. Were this opinion correct, we should be able, by the examination of the eye alone, to say that the iritis has been produced by such or such a cause, and that it belongs to such or such a form of inflammation. But this is not in reality the case; the changes which occur in the form of the iris have no connection whatever with the cause that has given rise to the iritis; they are merely to be attributed to the tumefaction of one region of the iris being greater than that of another region, or to adhesions having been formed, which impede its movements. We have now in our wards four or five patients labouring under iritis who present this symptom, yet you will not find one out of the five with whom the iritis can be possibly ascribed to the cause which ought to have produced it, were the views of the German school on

this subject correct. Indeed, the pupil of one of them has presented successively, in the course of a few days, all the principal modifications of shape which characterize the four chief forms of specific iritis—that is, the syphilitic, the scrofulous, the rheumatic, and the arthritic forms of that disease; and as we have continually facts of this kind under our eyes, it is really impossible to admit that the form which the pupil assumes, when inflamed, depends on a specific cause.

The humours of the eye losing their transparency, the colour of the pupil changes. Flakes or filaments of coagulable lymph often make their appearance, extending from one part of the pupillary circumference of the iris to another, and interlacing, so as to form all kinds of figures. Sometimes these flakes are only partly attached to the inner margin of the iris, or even float quite free in the pupil. It is nearly always very difficult to bring about the absorption of the lymph which has thus been effused, and as by its presence in the pupil it intercepts the entrance of light into the eye, the functions of vision are materially impaired. There can, in my opinion, be no doubt that these changes in the transparancy of the pupil are due to the effusion of plastic lymph, which takes place as a consequence of the inflammation of the iris. This membrane, situated as it is in the centre of the anterior chamber, may be compared to a fire placed in the middle of a room, the calorie emanating from which must necessarily modify the bodies that surround it.

In some instances, the naturally smooth surface of the iris presents numerous folds or furrows, as also well-defined specks and patches, which are to be attributed to ecchymosis, or to the effusion of purulent matter into the tissue of the organ. The patches are slightly raised above the level of the surrounding parts of the iris, and are encircled by a yellow areola. The specks are either of a brown or of a yellow colour, and protrude more or less into the anterior or the posterior chamber. When these symptoms are observed the iris seldom retains its usual situation; it is generally pushed either forwards towards the cornea, or backwards towards the crystalline lens. This phenomenon has been described under the name of *synechia*, anterior and posterior, and is caused by an increased secretion of the humors of the eye. Thus, when the uveal surface of the iris is first inflamed, the aqueous humor in the posterior chamber is increased, and the iris being pushed forwards, anterior synechia is produced; this also occurs when the volume of the vitreous humor is augmented. When it is the anterior surface of the iris that is first inflamed, the aqueous humor in the interior chamber is increased, and the iris being pushed backwards, it is posterior synechia that is produced. Synechia may also be caused by the adhesions which the iris contracts with other parts of the eye. It will be anterior when it adheres to the cornea, posterior when it adheres to the crystalline lens.

When the iritis is intense, in this stage of the disease the inflammation often extends to the conjunctiva. The transparency of the cornea becames more and more impaired, and the radiated sclerotic zone appears wider and of a deeper red. In some instances this zone advances as far as the cornea, the vessels by which it is formed losing themselves in the superficial lamellæ of that organ; in others, it stops at the union of the cornea with the sclerotica, and in others again it remains separated from the cornea by a grey or blue ring, as in the first stage.

At this period the pain felt in and about the eye may become very severe. It appears to extend more especially in the direction of the branches of the facial nerve, and of the fifth pair. The photophobia and the epiphora generally increase; sometimes, on the contrary, they become less intense. The exacerbation of the latter symptoms is occasionally accompanied by fever, nausea, and even delirium, but this is not often the case. It is worthy of remark, that there is seldom much general reaction in iritis, even when the inflammation is violent. Iritis differs in this respect from conjunctivitis and keratitis.

In the third stage of the malady we meet with all the symptoms that I have already described, but they are even still more evident than in the second stage. The contraction of the iris is sometimes carried so far as entirely to close the pupil, and the irregularity of its contour becomes more and more manifest. Attached to the pupillary circumference are numerous filaments or fringes, which also greatly tend to modify its form, and the flakes of coagulable lymph contained in the pupil are in some instances so numerous as entirely to conceal it. When this is the case, they may present all the characters of false membranes, and give rise to false cataract. The colour of the pupillary zone undergoes considerable modification, the iris assuming in this region a greyish or yellowish tint. During the inflammatory period of the malady the congested state of the vessels renders the iris darker than usual, but these vessels becoming to a certain extent obliterated, the paler fluids alone remain. The change which takes place in the colour of the iris is not, therefore, to be attributed to the decomposition of the

blood, but to the solidification of the lymph which has been effused.

It is more especially in this period of the disease that we meet with specks, ecchymosis, abscesses, purulent or sanguineous collections. Effusion of blood may take place in the tissue of the iris to such an extent as to reach from the larger or outer circumference of that organ to the pupillary margin. The iris is also often the seat of small abscesses, which may be easily recognised, especially when situated at the free edge of the pupil. They are often very numerous; indeed, I have seen as many as twenty-eight in the same eye. The synechia is more decided than in the second stage; and when the disease has arrived thus far, it has generally been long accompanied by inflammation of the cornea and conjunctiva. The symptoms which indicate that these affections have existed for a considerable length of time are, therefore, often observed. The alterations which occur in the aqueous humour might possibly lead a person unacquainted with the nature of the disease to believe in the existence of hypopion. Such an error, however, will never be committed by those who have practically studied the symptoms of iritis.

The various forms of iritis.—Iritis may, as I told you in a former lecture, occupy the anterior or posterior surface, or the parenchyma of the iris; but the distinction between these forms of inflammation can only be made at the commencement of the disease, the extreme tenuity of the membrane not allowing inflammation to exist long in one region without extending to the remainder of the organ.

Serous iritis, in which the anterior or serous surface is the seat of inflammation, may be easily distinguished from uveal iritis. The surface of the cornea is bathed with fluid, and assumes a peculiar shining appearance which it does not present when the eye is in a healthy state. This peculiar appearance of the eye must not, however, be confounded with the epiphora or effusion of tears, which is met with in ulcerated keratitis. On raising the eyelids, which may be done without any difficulty, we merely find the eye presenting a moist, watery aspect. In ulcerated keratitis, on the contrary, the contraction of the eyelids is so great as often to render it nearly impossible to open the eyes, and as soon as the cornea feels the contact of the air, the tears flow in abundance. In serous iritis the cornea also presents the greenish tint, but as the other symptoms of keratitis are absent, the nature of the disease can scarcely be mistaken. The surface of the inflamed membrane no longer appears smooth, as in the healthy state, and the transpareney of the aqueous humour is modified. If you then examine the eye attentively, you will frequently pereeive small specks or dots apparently situated on the internal surface of the cornea—a proof that the posterior lamella of that membrane is inflamed. This extension of the inflammation from the iris to the cornea is the necessary consequence of the anatomical disposition of the parts. The anterior chamber being lined by a serous membrane which exists both on the anterior surface of the iris and on the posterior surfaee of the cornea, it evidently follows that when one region of the membrane is inflamed, the inflammation must soon be propagated to the rest of the organ, as is nearly always the case with serous membranes. In pleurisy, for instance, if the inflammation begins by the costal pleura, it soon extends to the pulmonary pleura, and in peritonitis, if it begins by the parietal peritoneum, it soon extends to the visceral layer of that membrane. In this form of iritis the pain is but slight. If the inflammation persists, the aqueous humour contained in the anterior chamber increases, and the iris being pushed backwards, posterior synechia is produced. The anterior chamber then appears larger than usual,

In *uveal* iritis, the shining, watery appearance of the cornea is not so well marked as in the preceding form of inflammation. The pain is more severe, of an inflammatory nature, and radiates to the different parts of the head and face. The greater violence of the pain may be easily accounted for when we consider that the uvea is prolonged on the retina, and is in immediate communication with the nervous system of the head. The pupil becomes troubled sooner in serous iritis; indeed, this form of inflammation is nearly always accompanied by more or less effusion of lymph in the pupil.

I shall not attempt to assign peculiar symptoms to *parenchymatous* iritis. It is extremely difficult, if not impossible, to separate it from the other two forms of inflammation. We may admit isolated inflammation of the surfaces of the iris, for we know that mucous or serous surfaces may be inflamed without the subjacent tissues participating in the inflammation, but in a membrane of such extreme tenuity as the one in question, it is scarcely possible for the parenchyma alone to be affected.

Did I not intend very shortly to treat at length the subject of specific ophthalmia, it would now be time to examine the various forms of inflammation which are described under the head of scrofulous, rheumatic, arthritic, and syphilitic sore

iritis. Suffice it for the present to say that syphilitic iritis is, in my opinion, the only specific form of the disease which can be said to exist, and that all the other inflammatory affections which have been recognized by ophthalmologists ought to be erased from our nosological categories, as they only exist in the imagination of those who have described them. I shall, however, defer, for the present, the examination of the characters which warrant our recognizing syphilitic iritis, merely observing that, although I admit the existence of this specific form of inflammation, I by no means recognize as symptoms of such an affection those characters which are generally considered to indicate its presence.

Causes of acute iritis.—The anatomical nature of the iris is such as alone satisfactorily to account for its being so frequently the seat of inflammation: indeed, it is probable that it would be much oftener inflamed than it actually is, were it not guaranteed, by the position it occupies, from numerous causes of inflammation to which the superficial tunics of the eye are exposed. The internal causes of iritis are not well known. Great influence has been ascribed to sudden change from heat to cold—to meteorological phenomena—in fine, to all those agents which are supposed to act injuriously on the economy. But these are general causes of disease, and not more likely to produce iritis than any other malady. We continually see persons pass from a warm country to a cold one, from a warm to a cold room, without being on that account attacked by iritis; but of ten persons who expose themselves to cold when in a state of perspiration, some will be attacked by one disease, and some by another; one, for instance, by rheumatism, another by pneumonia, another by iritis; whilst some will suffer no injury whatever. The appearance of one disease sooner than another, when we are exposed to the agency of these general causes, seems to depend on individual predisposition, the nature of which we are not able to determine.

With the local causes of iritis we are much better acquainted. In operating for cataract by couching, the iris is often wounded, and iritis produced. This is also frequently the case when extraction is resorted to after the operation for artificial pupil, and in contused or punctured wound of the eye. Some surgeons consider the iris to be endowed with extreme sensibility, and are alarmed at the very idea of touching it in the operations which are practised on the eye. Thus Beclard says that couching scarcely ever succeeds when the iris is touched with the needle, the mere contact giving rise to acute inflammation; and that were it possible to perform the operation without touching the iris, it would nearly always succeed. But when we operate for cataract by extraction, the crystalline lens, in passing through the wound of the cornea, must necessarily drag or tear the iris; and yet it is not so much iritis that is feared as the inflammation of the cornea which ensues, and the opacities by which that inflammation may terminate. Nor is the operation as unsuccessful as we should be inclined to consider, were we to adopt these opinions. Some practitioners say that they succeed in half or in three-fourths of the cases in which they operate. The efficacy of the method of operating which they adopt, may have been exaggerated, it is true; as is nearly always the case when an exclusive opinion is professed: we are, nevertheless, authorized to conclude, from these statements, that what has been said of the exquisite sensibility of the iris cannot be perfectly correct. I have myself very frequently seen the iris cut or torn without its being consecutively inflamed. When, therefore, the iris becomes inflamed after local injury, the inflammation cannot be considered to depend entirely on the lesion it has received.

Terminations of iritis.—Iritis may terminate in several ways: by resolution; by the formation of false membranes, or adhesion of the iris to the surrounding tissues; by transformation into some other disease; or by suppuration.

Resolution is the most frequent and at the same time the most desirable termination of iritis. When it takes place the inflammatory symptoms gradually become less acute. The redness of the conjunctiva, as also that of the radiated sclerotic zone, diminishes, and at last entirely disappears. The iris appears less tumefied, and again assumes the smooth appearance which it presents in the healthy state. The external and internal zones return in a great measure to their natural colour, the pupil recover its mobility and its regularity of form, and the cornea, as also the aqueous humour, again becomes transparent. The clarification of the aqueous humour is, indeed, one of the first symptoms which announce the resolution of the inflammation, and when it takes place we are justified in making a favourable prognosis. The false membranes, the flakes of coagulable lymph, are gradually absorbed, and the collections of blood or lymph which occur in the tissue of the iris itself, and of which I have already spoken, become flattened, circumscribed, and are finally resolved.

The resolution is not, however, always

as complete after acute inflammation of the iris, as I now describe it to be. The abscesses may leave indelible marks, the coagulable lymph which is effused in the pupil may not be wholly absorbed, and the iris may not entirely recover its mobility. Indeed, when adhesions have been formed, the resolution is seldom perfect.

There are two forms of adhesion of the iris. Adhesion may exist between the iris and the adjoining tissues, thus giving rise to the synechia of pathologists, or it may exist between the fibres of the iris itself. The iris is formed by a great number of circular and radiated fibres, which are supposed by some physiologists to be muscular, but in my opinion their views are erroneous. Whatever may be their nature, these fibres, which act separately and are naturally very moveable, may become united with one another in such a manner as to lose partly or even entirely their usual mobility. I cannot give you a better idea of the nature of the union that takes place than by comparing it to that which would occur between the fingers of the hand, were they kept in close approximation when violently inflamed. You may not all feel inclined to recognize the existence of this species of adhesion, but on consideration you will find that it is only by allowing that adhesion does take place between the fibres of the iris, that we can satisfactorily explain the coarctations of the pupil, coarctations which we often observe even when the iris has contracted no adhesion whatever with the adjoining tissues. We have at the present time in our male wards a case which will illustrate this form of adhesion, the coarctation of the pupil being carried to a great extent, without there being any apparent connexion between the iris and the organs placed posteriorly. The patient, a man of about fifty years of age, was affected with acute iritis of the left eye, several years ago, and the pupil was so contracted when he entered the hospital, this day fortnight, that it would scarcely have admitted the head of a large pin. Under the influence of belladonna, the pupil has become slightly enlarged, and has assumed a triangular form, something similar to an ace of clubs. The other eye is at the present time the seat of chronic inflammation, and it is for the affection of this eye that he entered the hospital. The pupil is irregular, and presents a margin prominent in some parts, slightly depressed in others. Those portions of the pupil which are depressed seem as if they were drawn back by something, whilst those which are prominent are apparently quite free. This case alone will enable you to form a very correct idea of the various modifications which adhesion of the iris may present.

The adhesion which takes place between the iris and the adjoining tissues also offers two forms, which I have already briefly described to you under the names of anterior and posterior synechia. In anterior synechia the iris may adhere to the cornea either by its entire papillary circumference, or by a few points only. This kind of adhesion is rare, and when it exists the size of the anterior chamber appears much diminished. Posterior synechia is much more frequently met with, nor can we be surprised that this should be the case, when we consider that the distance which separates the iris from the crystalline lens is extremely slight. When the iris is inflamed it becomes tumefied, and the aqueous humour in the anterior chamber at the same time increasing, it is pushed backwards towards the lens. If the inflammation does not subside effusion of lymph takes place, as we have already seen; the aqueous humour becomes troubled, and small filaments soon form, which, attaching themselves to the posterior surface of the iris and to the anterior surface of the crystalline lens, constitute a connexion between the two organs. This form of adhesion may be easily recognized by rapidly raising the eyelid, previously closed for a few seconds, and then examining the eye. The pupil dilates when the eyelid is closed, but unequally, so as to assume every possible variety of shape. In some instances the adhesion takes place in another manner; the pupillary margin is connected with the crystalline lens by small filaments like hairs, a quarter of a line or half a line in length, which, tying it down as it were, occasion small triangular depressions wherever they exist. In all the forms of adhesion which I have described the functions of vision are more or less impaired.

Sometimes, when the iris has partly recovered its mobility, we see at the bottom of the pupil, near its circumference, a radiated ring. This ring is of a blackish colour, and may be compared to the sclerotic zone, of which I have so often spoken. When it is present the sight is always more or less disordered. Its existence is a proof that the inflammation has occupied the parenchyma of the iris, that pigmentum has been secreted in great abundance, and that the pupil, having rested on the anterior surface of the crystalline lens, has left this trace of its passage. Great attention has been paid to this phenomenon by German pathologists, who, to explain it, have invented a black radiated cataract. Indeed, the discussion on this subject has been rather warm, some asserting that the

zone was formed by vessels, others that it was formed by pigmentum. The black radiated ring in question may be easily produced in the dead subject by depressing the cornea—a fact which shows at once that the explanation I have given you is the true one.

After acute inflammation of the iris the resolution is sometimes so imperfect as to allow the formation of false cataract or of opaque membranes, which may constitute a complete obstacle to vision. I have often seen the malady thus terminate.

Iritis may disappear under the influence of the inflammation of the eye. Thus I have several times seen it give way when the cornea or the conjunctiva have become seriously affected.

Sometimes iritis terminates by suppuration, a circumstance much to be dreaded, from the disastrous consequences by which it is followed, with regard to the functions of the organ. When the iritis is extremely intense the whole interior of the eye may be attacked by phlegmonous or purulent inflammation; this general inflammation of the eye is called *ophthalmitis* by modern authors.

Prognosis.—From the description I have given of iritis, it is evidently a serious disease, not as regards the life of the patient, which is seldom in danger, but as regards the functions of the affected organ, which are often impaired even when the disease is cured. When, however, the treatment is begun sufficiently early, iritis frequently gives way, especially if there is no previous opacity of the cornea, and if the inflammation has not been cured by local injury.

Treatment of Acute Iritis.

Before we enter at length into the examination of the various remedial agents which are directed against iritis, I must remind you that a distinction should be made between primitive and secondary iritis; that is, between the inflammatory affection which commences by the iris, and that which is merely a consequence of the inflammation of some other organ. This distinction is important, as secondary iritis will often disappear when the affection by which it is caused has given way, and is often much less difficult to cure than primitive iritis. Local remedies also sometimes prove successful in secondary iritis, whereas they have little or no influence over the primitive form of inflammation.

The remedies which have been employed in the treatment of iritis are quite as numerous as those which have been used against keratitis, nearly every possible plan of treatment, both general and local, having been alternately tried, extolled, and rejected. I have myself tried most of the remedial agents which have been directed against iritis at various epochs, and will now lay before you the result of my experience. In doing so, I shall follow the same plan as when treating of keratitis; that is, I shall first speak of the general, and then of the local treatment of the disease. As I have said nothing hitherto of the pretended specific forms of iritis, I shall not now allude to the treatment which they may require.

General treatment.—General remedies, as might be expected, from the situation of the iris, occupy the first place in the treatment of iritis. They may be divided into three classes—evacuants, alteratives, and resolutives.

At the head of the first class may be placed *blood-letting*, both general and local. Blood-letting is certainly the most powerful agent that can be directed against the disease, and, at the same time, the one the utility of which is the most universally recognized. But, although practitioners are unanimous in acknowledging the efficacy of the remedy, they are far from agreeing as to the manner in which it should be employed. Some prefer general, some local bleeding; some bleed copiously at several days interval, others bleed less freely, but repeat the operation oftener; whilst others, again, extol the plan of bleeding *coup sur coup*. Before we examine the comparative efficacy of these various methods, I must remind you that general bleeding may sometimes be contra-indicated by the individual state of the patient. Thus, it cannot be resorted to, or at least carried to any great extent, with patients of a lymphatic or scrofulous habit of body, with those whose constitution has been weakened or deteriorated by disease, or by any other cause, or with those who appear to be in a state of anæmia. When these contra-indications do not exist, general bleeding may be resorted to without fear. I do not, however, in any case, approve of the abstraction of a very large quantity of blood at the commencement of the disease, a plan recommended by some surgeons. Thus, Saunders advises the patient to be bled as soon as possible to the extent of two, three, and even four pounds. Such a mode of treatment is scarcely ever adopted in France. The loss of so large a quantity of blood may sometimes be useful, it is true, but it is, generally speaking, attended with very serious disadvantage. The patient is very frequently reduced to such a state of anæmia and weakness, that effusion may take place in the serous cavities, or, what is more serious, the inflammation gradually returns as the strength improves, and that when his

extreme weakness precludes our having recourse to the remedy we have already employed.

When the patient is strong and robust, I often bleed *coup sur coup*, that is, night and morning for several consecutive days, and, at the same time, apply leeches behind the ears in the middle of the day; but I do not make it a general rule to act in this manner. Sometimes I bleed with the lancet one day, and only apply leeches the following morning; indeed, I am guided by circumstances, and the individual state of the person I am treating. The inflammation is always favourably modified by this plan of treatment, sometimes, even, it is entirely subdued; the vascularization of the sclerotica, as also that of the conjunctiva, disappearing, and the cornea recovering its usual transparency. In some cases, however, bleeding alone will not completely subdue the disease.

Some practitioners advise blood to be taken from the foot sooner than from the arm, because they think that blood-letting thus practised exercises a derivative action. As, however, I cannot understand why the effect of venesection performed on the veins of the foot should be more derivative than when performed on those of the arm, I shall not say any thing further on the subject.

Local blood-letting is often associated with general blood-letting, but it is also frequently resorted to alone, when the latter mode of depletion is inapplicable, owing to the state of anemia in which we find the patient. In these cases the local abstraction of blood will produce the same effect on the inflamed membrane, and that without much loss to the economy. When leeches are employed, they may be applied either on the mastoid region, on the temples, or round the orbits. My own experience has not shewn me that they are more useful in one region than in another; nor do I think that the question can easily be solved, as the efficacy of leeches is not, in the majority of cases, sufficiently evident to enable us to form a correct estimate of the benefit that has been derived from their use. In my opinion, therefore, it is of but little importance which of the regions I have named is selected, unless it be in private practice, when it is as well not to place them round the orbit, as the swelling of the eyelids to which they give rise often alarms the patient and his family. The tumefaction being merely due to serous or sanguineous infiltration, and nearly always disappearing in the course of two or three days, there is no real foundation for the fears which are entertained. I am, indeed, inclined to believe that, acting as a revulsive, it may favour the resolution of the malady. It is, nevertheless, better for the surgeon not to have recourse to a plan of treatment which may create a disagreeable impression on the mind of his patient. Leeches may also be placed, as in keratitis, on the internal surface of the eyelids, where two or three will often exercise as great an influence over the disease as fifteen or twenty applied on another region. But this is a practice which I only follow when I wish to act on the inflammatory affection of the iris, with the loss to the system of as little blood as possible.

Cupping, which is preferred by some practitioners to every other kind of local depletion, may be resorted to under the same circumstances as leeches, the indication for the one being also the indication for the other. Many surgeons think that advantage is to be derived from cupping in one region sooner than in another, but I have not, in my own practice, found this to be the case.

When the inflammation persists, after general and local blood-letting have been employed, other remedies must be tried, the most important of which are purgatives.

Purgatives have always been much employed in the treatment of acute iritis. You know I look upon them as irritants which act by depriving the economy of a certain proportion of its elements. Weller extols the purgatives that are in general use, such as senna, jalap, gamboge, &c. but without appearing to entertain any peculiar theoretical ideas respecting their mode of action. Other surgeons, attributing to this class of therapeutic agents specific properties, employ the drastic purgatives, such as aloes, scammony, &c. in frequently-repeated doses, with a view to irritate the intestinal canal. English practitioners, guided by the theoretical ideas which they profess, make frequent use of purgatives. In France, a short time ago, purgatives were generally accounted irritants capable of inflaming the intestinal canal unless administered with the greatest precaution. With our friends on the other side of the channel, no such fears existing, they are constantly resorted to: calomel, either alone or associated with some other substance, is the purgative they most frequently employ. Nor can we be surprised at this, when we recollect that calomel is considered by them not only to be an excellent antiphlogistic, but also to possess properties peculiar to itself, and is, consequently, generally introduced into their prescriptions when they consider purgatives indicated.

Calomel is employed in England as a purgative, with a view to produce mercurial action, and as an alterative. When given as a purgative, the dose is from two

to six grains, repeated for several consecutive days. When given in order to produce salivation, ten, fifteen, or twenty grains, are administered every day in divided doses; and lastly, when it is thought desirable to produce an alterative effect, it is employed in small doses, combined with opium or hyoscyamus, two or three times a day. Calomel has been used in the same manner in France; indeed, some of our countrymen have even gone further than the English surgeons. A medical gentleman of Avignon, for instance, having made a journey to England, became convinced that calomel was a heroic remedy against acute iritis, and determined on his return to give it a trial. This he did in the Hospital of Avignon, where he gave, with great success, it appears, as much as twenty and thirty grains of calomel daily to his patients. I have myself given every species of purgative, and that in every possible manner, and have come to the following conclusions:—Ordinary purgatives, whether they act as evacuants or as irritants, have never appeared to me to possess much efficacy in the treatment of iritis. I have never seen the inflammation disappear in such a manner as to leave me the conviction that it was to the purgatives I had administered that its disappearance was due. I have very frequently given calomel, both as a purgative, as a mercurial agent, and as an alterative, and I must say that I have sometimes seen the iritis disappear when the economy was deeply disturbed by its action. Thus I have seen the decrease and final disappearance of the inflammation coincide with salivation, but I am not prepared to say whether this was the result of the medication I was employing, or whether it was mere coincidence. We had a few days since, in our female ward, a woman labouring under iritis, accompanied by chronic keratitis. Blood-letting and topical remedies having proved unavailing, I gave her ten or twelve grains of calomel every day for five successive days. The calomel caused violent purging, as also salivation, and the intensity of the iritis was, at the same time, much mitigated. This at first appears conclusive as regards the efficacy of calomel; but if we scrutinize narrowly the facts of the case, we shall find that we are not in reality authorised to draw from it such an inference. While she was taking the calomel a blister was placed on the calf of each leg, and the application of one of these blisters was followed by severe phlegmonous erysipelas. We cannot, therefore, but ask whether the amelioration which took place is to be attributed to the salivation, or to the revulsive action set up on the leg. But this is a question which I do not feel able to answer, as I have seen in many other instances salivation productive of no benefit whatever. In fine, I believe that calomel, given in large doses, may prove useful in the treatment of acute iritis; but, on the other hand, I doubt whether the accidents to which the presence of this substance in the economy often gives rise, are not of such a nature as to more than counterbalance the benefit which may be derived from it. It is well known that salivation is sometimes followed by a form of diarrhœa which is extremely difficult to cure, as it depends on a serious lesion of the intestinal canal. In several cases of this kind which I have been able to examine after death, I have found the mucous membrane of that organ tumefied, of a greyish colour, and disorganized to a surprising extent. Knowing, therefore, that the use of calomel exposes his patient to such an affection, a surgeon must have extreme confidence in its efficacy as a remedy against the disease to employ it in every case—a confidence, indeed, which I am very far from possessing. I often give, however, four, eight, or ten grains, for the first day or two of the treatment.

Tincture of colchicum and oil of turpentine have been lauded by some practitioners as extremely efficacious remedies. Tincture of colchicum has been more especially recommended by M. Carron du Villards, and that principally against the specific forms of ophthalmia. I have often employed this preparation, but do not remember ever having seen the patients on whom I tried it derive much benefit from its use. The action of tincture of colchicum is in my opinion similar to that of other purgatives, and as it is a purgative on which no reliance can be placed, I do not think it will ever be much used in the treatment of iritis. Some English surgeons seem to look upon oil of turpentine as a remedy endowed with extraordinary properties. Thus Mr. Carmichael says he has used it with surprising success in iritis. He gives two, four, six, or even eight drachms, in the twenty-four hours. Messrs. Guthrie, Riggs, Mackenzie, and others, have also published cases which would tend to prove that oil of turpentine is a valuable therapeutic agent in the treatment of iritis. My own experience of the remedy is too slight to enable me to say much on the subject, but on examining the statements to which I have just alluded, I do not find that they are at all conclusive. The patients whose cases are related had all been affected three weeks, a month, or even two months, previous to being treated, and were then either cured in ten or fifteen days, or otherwise the eye became disorganized. But this is what

we see continnally when recourse is had to those remedies only which are usually employed. The oil of turpentine is, like the oil of coloquintida, an acrid irritating purgative, and its use is not unattended with danger to the intestinal canal. In none of the cases which have hitherto been published do I see any thing which can warrant our preferring it either to calomel or to the other purgatives which are generally used. It is, moreover, a most detestable remedy to take, and why should we choose it, when there are so many of the same nature more agreeable to the patient, and to those who surround him, and also more efficacious?

In addition to blood-letting and purgatives, there are many other general remedies which have been lauded as specifics against iritis. Such are the antimonials, the golden sulphuret of antimony, sulphur, iodine, sudorifies, &c.

I have frequently given tartarised antimony either diluted or in sorian doses, but have never seen it exercise much influence over the course of the disease. Sometimes, however, when the iritis was already in a great measure subdued, it has appeared to accelerate the resolution of the inflammation. With regard to the golden sulphuret of antimony, it may be classed along with the nitrate of bismuth, which, although extolled for some time as an extremely efficacious remedy, is now looked upon as an inert powder. The same cannot altogether be said of sulphur and iodine. Yet I have given sulphur in doses varying from fifteen to twenty grains, without obtaining any satisfactory results. The utility of iodine is also very questionable, unless it be given, as indeed it generally is, with a view to act on a scrofulous constitution: by improving the general health it certainly will act indirectly on the eyes. The sulphate of quinine is also only useful when the patient is weak and feeble, and can merely benefit the eyes by benefiting the constitution in general.

From the cursory survey we have taken of the various remedial agents which are employed in the general treatment of acute iritis, you will perceive that, with the exception of blood-letting, we have but very little to boast of; that there is indeed no other general remedy on which any dependence can be placed. Such a conclusion is not very flattering to our vanity, but I do not hesitate to make it known to you, as it is the result of my lengthened experience of the disease. It is, in my opinion, much preferable that we should be aware of our ignorance, on a subject with which we really are not acquainted, than that we should delude ourselves with the idea that we are perfectly conversant with it, as in the first case we continue our researches, whereas in the second we remain inactive.

There are a certain number of remedies, such as blisters, setons, moxas, &c. which partially deserve the name of general agents, and which ought, therefore, to be studied before we begin to examine the local treatment of the disease. Applied at the nape of the neck, and in the immediate vicinity of the head, blisters do not appear to exercise much influence over the progress of acute iritis, and as they may act on the lymphatic system, I think it is better not to employ them in those regions. In other parts of the body they may be beneficial; I occasionally apply them on the thighs, or on the calf of the legs, keeping them open for some time. I have in several instances surrounded the neck or the two arms of a patient with a large blister, but have never found the iritis to be sensibly modified by such a measure. In some cases of acute iritis I have applied blisters over the orbit, and this practice has been attended with so much benefit to the patients with whom I adopted it, that I feel inclined to give it a further trial. I have, as you all know, often followed this plan of treatment in the various inflammatory affections of the eye, and have never found reason to repent having so done.

Some authors have spoken of a remedy similar in its mode of action to cantharides plaster, as if the effects it produces were quite miraculous. A piece of linen is steeped in an infusion of mezereon root in strong acetic acid, and then applied to the skin, on which it produces vesication, exactly in the same manner as boiling water, or an ordinary blister. I cannot, however, understand why, the effects of these agents being identical, one should be so much more efficacious than the other.

Setons and moxas are also used in the treatment of iritis. They may be useful, but more so in the chronic than in the acute stage of the disease.

OBSERVATIONS ON PUS, BY HERBERT MAYO, F.R.S.

AN ABSTRACT OF A PART OF A SURGICAL LECTURE.—*Oct.* 1839.

[*For the London Medical Gazette.*]

In my Outlines of Pathology, 1839, I adopted M. Gendrin's statement, that on a suppurating wound of the web of a frog's foot he had seen the blood particles, as they approached the wound, lose their colour, and finally escape from the capillaries as pus particles.

In the fourth edition of my Outlines of Physiology, 1837, I mentioned that I had measured the size of the pus particles, which I found to have a diameter of 1-2000dth of an inch, and that they appeared to me of the shape of the blood particles.

Recent observations have led me to doubt M. Gendrin's statement, and to recognize my own account of the shape of the pus particles to be erroneous.

The interesting researches of M. Gulliver, which went to shew that in several diseases pus appears spontaneously in the blood, have led, at the same time, to the determination of the true figure of the pus globule.

The following are a few observations relating to these subjects, which I have made in preparation for this lecture, availing myself of a microscope, made by Powell, belonging to Mr. Tomes, senior house-surgeon of the Middlesex Hospital:—

1. Pus particles are globular; they are often, however, irregular in figure, being liable to be flattened by pressure. They seem either to be composed of a uniform transparent substance, in which several nuclei are embedded, or to consist of many cohering granules: sometimes one, sometimes the other, character predominates. The edge is never exactly even, but appears slightly granulated. The globules may be seen to roll over in the liquid in which they float, rendering their figure determinable with accuracy. They are brittle; so that half a pus globule is sometimes seen with an irregular broken surface. As the fragment of the broken globule retains its shape, that of a portion of a sphere, it is evident that the globule is not originally a mere vesicle containing detached granules.

2. The size of pus globules obtained from surfaces actively secreting healthy pus, is very uniform. Their average diameter is that which I before gave—namely, 1-2000dth of an inch. Under some circumstances, smaller particles, but of a similar structure and shape with those described, are met with in great abundance, mixed with what seem pus globules of the full size. The smallest of these which I have seen, measured 1-5000dth of an inch in diameter. When these have been seen by me, I have likewise seen particles of every intermediate size between these and the larger particles mixed with them.

Globules similar to the smaller globules here described are occasionally seen in the blood of healthy persons, together with the larger ones.

3. A suppurating surface in full activity secretes full-sized pus globules alone; and particles of the same size, and of that alone, are found in the blood which escapes on puncturing with a needle the red and inflamed skin immediately surrounding the ulcer. The pus from an issue in a lad, 15 years of age, contained full-sized pus particles alone. Blood obtained by pricking the adjacent red and inflamed skin contained globules resembling pus globules of the same size only.

Matter taken from an ulcer on the ankle of a young man affected with scrofula, contained ordinary pus globules about 1-2000dth of an inch in diameter. In blood obtained by pricking the red skin round the same ulcer, granular spherical bodies, of the size of pus particles, as in the last instance, were seen, but apparently in greater numbers than in the blood of healthy persons.

Matter taken from a phlegmonous abscess in the axilla, which had been opened the same day, contained pus globules, of which more than nine-tenths were about 1-2000dth of an inch in diameter: there were several larger; some were 1-1200dth of an inch in diameter; a few, the largest, 1-900dth only. The larger ones were darker and more opaque, but had the same granular structure. One would conjecture that they grow by the aggregation of new granules to their surface. Blood obtained by pricking with a needle the red skin over the abscess, contained, as in the two last cases, globules resembling pus globules found in healthy blood, and not more numerous than in many specimens of healthy blood.

4. Average-sized pus globules, or, at all events, spherical, granular, colourless particles, of about 1-2000dth of an inch in diameter, are to be found all but universally in the blood of persons in perfect health. I have examined blood from two boys, from five young men, a few days from the country and in perfect health, from various young and middle-aged persons, residents in London, and from an old woman, aged 63. In the blood of all these persons such globules were to be seen; they were rather more numerous

in some than in others. The only person in whose blood I have not found particles of this description was an aged woman of 77. These globules I suppose to be pus globules, and conjecture to be the same with those to which Mr. Gulliver's observations refer: nevertheless, they differ, to a certain extent, from the globules which are seen in pus from an ulcerated surface. They seem to have less substance, being more transparent; so that I should have hesitated to consider these pus globules, if it were not for the facts to be mentioned in paragraph 5.

5. The circumstances under which I have met with the smaller spherical transparent granular particles, are the following:—In each of two different patients, I punctured with a needle the red skin over an inflamed gland, which threatened to suppurate, but eventually did not. The fluid which escaped contained, besides blood particles, an infinite number of granular, transparent, spherical particles, most of which were about 1-2000dth of an inch in diameter, the smallest 1-5000dth, mixed with many of every intervening size. On puncturing with a needle the red edge of a rapidly-healing sore on the back of the thigh, the same appearances were met with, as well as in the secretion from the surface of the ulcer itself. In these three cases the fluid which escaped on puncturing the red skin, was at one time as dark as blood, at another was transparent, at another intermediate. The predominance of a red colour was, of course, owing to the presence of more blood and more blood particles.

These observations presented nothing that enables me to form a satisfactory conjecture as to the derivation of pus globules from any of the other elements microscopically visible in the blood. The shape and structure of the pus globule are so dissimilar to that of blood particles, as to make it difficult to imagine the conversion of the latter into the former; nor does it appear much more likely that they are formed by aggregations of the small and apparently spherical and homogeneous particles less than 1-10,000dth of an inch in diameter, which are seen, in greater or less numbers, in blood. These, indeed, in blood out of the vessels, have a disposition to aggregation (as the red blood particles have), collecting in granular masses, some of which approach the circular figure. But they mostly may be seen to group in other figures, of all shapes and sizes, indeed; and where, as it occasionally happens, they come together in a figure nearly circular, the little conglomerate wants the clean and defined outline of the true pus particle.

The pus examined on the occasions mentioned, was taken by applying a piece of glass to a surface covered with pus; over the pus so taken, another thinner piece of glass was laid. The blood examined was taken in a similar way from the drop exuding upon pricking the skin. In two or three instances, a drop of water was mixed with the blood, which rendered the supposed pus globules more distinct, by separating and partly dissolving the blood particles.

The preceding observations have an important bearing on those of Mr. Gulliver. To establish his most interesting views, it is obvious either that he must further shew that the pus globules of *his* observations are not the same with the transparent globules of the size of pus globules, which I have ascertained are all but uniformly, if not uniformly, present in healthy blood; or admitting the identity of the two, he must shew these globules to be more numerous in the blood of persons affected with suppurative fevers than in the blood of healthy persons.

ON SOME POINTS CONNECTED WITH VACCINATION.

To the Editor of the Medical Gazette.

Sir,

My attention has lately been called by several professional friends to the "Report on the Present State of Vaccination," drawn up by Dr. Baron, and published under the high authority of the Provincial Medical and Surgical Association. It is a matter of much regret to me, that with many parts of that report I am unable to concur. Circumstances may arise which may induce me to request permission to state, in the pages of your journal, what are the points of doctrine on which I differ with the learned chairman of the vaccination section, the author of the report, and what are the grounds on which my adverse opinions are based. In the pre-

sent communication, I confine myself to one point only; but that one is of great pathological importance.

Throughout the whole of Dr. Baron's report much stress is laid on the frequency with which small-pox *recurs*; and it is argued, that if one attack of undoubted small-pox does not secure the constitution from further assaults of the enemy, no surprise need be felt at the occasional failures of cow-pox. Dr. Baron states (page 66), that 62 correspondents gave returns of 239 cases of recurrent small-pox, of whom 12 or 13 proved fatal. He quotes the experience of Mr. Goolden, who has seen 80 or 90 cases of small-pox after small-pox, many of which were confluent and very severe. He even knew of small-pox occurring a *third* time in two families.

In further support of this opinion, Dr. Baron brings forward (page 64) the following statement:—"In Norwich, we learn from Mr. Cross, that out of 603 persons affected by that disease, 297 had previously had small-pox, 91 had been vaccinated, and that 200 had neither had cow-pox nor small-pox. Of this latter number 45 perished. Of the 91 vaccinated persons, all, with the exception of 2, had a mild affection. *The same seems to have been the case with the 297 who had previously had small-pox.*"

The statement that out of 603 cases of small-pox, 297, or nearly one-half, had previously had small-pox, astounded me not a little, considering that, at the Small-pox Hospital, a twelvemonth often elapses without a case of the kind. I was the more astonished, too, as I had often read Mr. Cross's admirable work, and had no remembrance of such a passage. On reference to Mr. Cross's book (History of the Variolous Epidemic of Norwich, in the year 1819), page 7, my wonder ceased. The 603 persons therein named were not persons who had undergone small-pox, but individuals comprising the 112 families in which small-pox had appeared. Instead of finding that, of the 91 vaccinated persons, all, with the exception of two, had a mild affection, I learned (page 36) that two only had had small-pox, and 89 were *unattacked*, though living in the same room with those suffering from small-pox. Lastly, I ascertained that, instead of the 297 persons having had the disease a second time, they (together with the remaining 15, making 312 in all) "*had no eruptive disease of any sort during the epidemic.*"

I am wholly unable to explain by what inadvertence this error crept into Dr. Baron's report; but it seemed to me very necessary that such error should be pointed out, more particularly as a degree of importance is attached to the principle which it was calculated to support, far beyond that which, in my judgment, a sound pathology would warrant.

I have the honour to be, &c.

GEORGE GREGORY.

31, Weymouth Street,
Oct. 8, 1839.

A BEAD TWENTY YEARS IN THE EAR.

To the Editor of the Medical Gazette.

SIR,

I SEND you the particulars of a case occurring in my practice, which, as it is rather curious, you will perhaps deem worthy of insertion in your journal.

A few days ago I attended a lady in her confinement with her first child. When 18 months old a glass bead had slipped into her ear; medical advice was resorted to, but the bead could not be extracted, and in the course of time was forgotten. The labour was severe; the efforts of parturition were violent; a slight pain was felt in the ear; and a small body was extruded from it, which on examining, and removing the extraneous matter which surrounded it, proved to be a blue bead of the diameter of the fifth of an inch, and was immediately recognised by the patient's mother as the bead, which, more than twenty years ago, had caused so much anxiety.

The case I regard as curious, and illustrating the extreme violence with which the air, during parturition, must have been forced towards the ear along the Eustachian tube.—I am, sir,

Your obedient servant,

J. DOUGLAS.

14, North Audley Street,
Oct. 9th, 1839.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

A Treatise on the Diseases of the Heart and Great Vessels, and on the Affections which may be mistaken for them, &c. By J. HOPE, M.D F.R.S. &c. Third edition. London. 8vo. pp. 639.

IN the present edition of this valuable treatise, the author has adhered to the general arrangement adopted in the last, but has made large and important additions to almost every part of it.

The work is too well known and appreciated to require either analysis or encomium; we shall, therefore, only offer a general notice of its contents, with a view to such comments on the new matter as our limits will admit.

In Part I. on the "anatomy and physiology of the heart," there is a full and unavoidably controversial view of opinions on the causes of the cardiac sounds, with details of all the experiments by which the author has been led to the conclusions in which he now abides. These conclusions we state nearly in his own words.

First sound.—This is compound, consisting, first, of the click of the auricular valves; secondly, of the sound of muscular extension—a loud smart sound produced by the sudden extension of the braced muscular walls at the moment when the auricular valves close; thirdly, of a prolongation, and possibly an augmentation, by *bruit musculaire*, or the dull rumbling sound of ordinary muscular contraction. The valvular click gives smartness and intensity to the commencement of the first sound; and in feeble hearts, in which the sound of extension and the *bruit musculaire* are absent, the click alone is heard, making the first sound identical in quality with the second. This occurs, for example, in dilatation with attenuation. The sound of muscular extension adds bluntness and loudness to the valvular click, and is probably a principal cause of the extraordinary intensity of the first sound, often observed in violent palpitation. It differs from the sound of costal percussion with metallic *cliquettes*, which imparts a double character to the first sound, and only exists under particular circumstances. The *bruit musculaire* forms a gradually diminishing prolongation of the sound to the end of the act of contraction; but when the heart acts feebly, either from disease, or from temporary exhaustion or faintness, the *bruit musculaire* may be partially or wholly absent.

Second sound.—This results from the sudden expansion of the semilunar valves, occasioned by the reflux of the columns of blood in the aorta and pulmonary artery during the ventricular diastole. The auricles do not contribute to the production of either of the sounds, since, in the experiments on the ass, they were heard in equal perfection when the auricles were motionless. Nor does the auricular contraction, in the author's opinion, occasion any sound whatever; for the movement during tranquil action of the heart, in large animals at least, is too inconsiderable, nor are there any circumstances of structure or resistance to cause valvular or muscular extension. Finally, no third sound of the heart is ever heard.

Here also will be found a very elaborate exposition of the subject of valvular murmurs. The remarks on murmurs from *regurgitation*—the existence of which was first detected by our author—are worthy of particular attention; we can only find space, however, for the following general conclusions on the stethoscopic signs of disease of the cardiac orifices:—

1. The ventricular *systolic* currents through contracted orifices, from being stronger than the *diastolic*, produce louder murmurs.

2. Considerable contractions of a rough, salient configuration, whether osseous or not, produce the rough murmurs of sawing, filing, or rasping, provided the current be that of the ventricular systole, its diastolic currents being too feeble. It has been a prevalent notion, derived from Laennec, and supported by Bertin and Bouillaud, that the sounds indicative of valvular disease were determined, as to their asperity, by the degree of roughness of the obstructing surface, and hence that the bellows sound was connected with fibrous and cartilaginous disease, and those of a rougher character with ossification. Dr. Elliotson believes that the degree of contraction of the orifices is the sole cause of roughness in the sound. Without denying that the degree of contraction is an important modifying cause, Dr. Hope dissents from both the fore-

going opinions, because he has known ossifications, when not very prominent, and especially when covered by the lining membrane of the heart, produce a very smooth bellows sound, and the saw, file, or even the rasp sound, occasioned by fibrous or fibro-cartilaginous disease; and he has further observed that the highest possible degrees of contraction are invariably attended with a soft bellows murmur. He is hence led to conclude that the roughness of the sound is neither connected with the anatomical character of the valvular disease, nor directly proportionate to the degree of contraction; but that it depends on such accidental configuration of the contracted orifice as is most calculated to break the stream of the blood, and to excite large vibrations in it and the adjoining solids.

3. The pitch, or key of murmurs, is higher in proportion as they are generated nearer the surface, and as the currents producing them are stronger; and *vice versâ*. The key also is lowered by distance, independently of depth, on account of reverberation through the chest. Thus murmurs seated in the pulmonary orifice or artery, are higher in their key than others, from being more superficial, and those originating in the ascending aorta, where it approaches near the sternum, are almost in as high a key; those in the aortic orifice, being rather more deeply seated, are somewhat graver; those of the mitral valve are the lowest toned of all; and those of the tricuspid rather higher than of the mitral, because it is not quite so deeply seated. On the same principle—that the gravity of the sound is increased by remoteness and reverberation—a murmur is low toned, not only from being deeply seated with respect to the parietes of the thorax, but also from being explored at a distance. Thus a murmur seated in the semilunar valves, if explored above the clavicle, or an inch on either side the sternum, or near the apex of the heart, has a graver sound than if explored immediately over the diseased valves. The principal use of this knowledge of the pitch or key of murmurs, is to enable the auscultator to trace the sound to its source, which is at the point where it is loudest and seems nearest to the ear. Dr. Hope says that a student well taught on three or four marked cases, may make himself master of these distinctions in half an hour. This remark we think will not apply to all ears; for there is great diversity, not only in the acuteness of audition, but in the power of appreciating different kinds of sound: the musical ear, for example, bears no equal ratio to the perfection of the general sense of hearing; and there is much reason to believe that some particular portion of the auditory apparatus ministers especially to the distinction of musical notes.

4. Musical murmurs indicate nothing more than ordinary murmurs.

5. Rough murmurs, and even loud and permanent bellows murmurs, indicate organic disease. This rule we should be disposed to admit only as a very general one, subject to many exceptions; for it is a prevalent, and we believe a correct, opinion, that any of these sounds, when sometimes present, and at others absent, may originate in mere functional disorder; nor can it be denied, on the other hand, that even the roughest sounds, connected with ossification of the valves, do occasionally intermit, owing to causes not easily understood: we doubt, therefore, whether any of the sounds in question can be received as *certain* indications of organic disease, independently of the symptoms; conjoined with these, however, they become perfectly unequivocal.

6. Murmurs from regurgitation necessarily indicate organic disease.

In the section "on venous or continuous murmurs, hum, and musical notes," our author contends that Laennec, Bouillaud, and others, have been mistaken as to the seat of these sounds; and that the opinion of Dr. Ward, of Birmingham, which refers them to the veins, is correct. According to Dr. Hope's observations, the venous murmur is in a much lower key than the arterial bellows sound, and where the two strike the ear simultaneously, the arterial may be heard *through* the venous. When there is no considerable arterial throbbing, the venous murmur is equable; but when the arterial throb is considerable, it undergoes augmentations synchronous with the pulsations of the arteries, and consisting in the superaddition of the arterial whiff to the venous murmur. For the grounds of this opinion, and for a minute investigation of the varieties of venous murmur, we must refer the reader to Dr. Hope's work.

The above-mentioned views have led

our author to a new theory of the utero-placental sound. In a chapter on the application of auscultation to the diagnosis of pregnancy, he expresses his belief that the ideas hitherto prevalent are all erroneous; that Kergaradec, Kennedy, P. Dubois, &c. are mistaken in restricting this sound to the uterus, placenta, or both; that Bouillaud errs equally in restricting it to the great arteries of the pelvis; and that all are wrong in attributing it to the arteries exclusively of the veins.

Dr. Hope submits the following propositions for further investigation:—

"1. That the murmur is arterial when it is a whiff.

2. That it is venous when continuous without augmentations synchronous with the pulse.

3. That it is arterial and venous conjoined when it is continuous with augmentations.

4. That its seat is sometimes in the vessels of the abdominal parietes, as the epigastric, circumflexed ilii, internal mammary, and their branches and concomitant veins; sometimes in the great arteries and veins within the cavity of the abdomen, as the common and external iliacs, the renal, the three branches of the cœliac, the colica dextra, media, sinistra, and ileo-colica, and the portal veins; sometimes, possibly, in the uterine walls, and sometimes, possibly, in the vessels of various tumors.

5. That the murmur is generally created by pressure, whether that of the uterine or other tumor or of the stethoscope; and that it does not exist independent of pressure except, possibly, in anæmic cases.

6. That the stretched condition of the arteries, and especially the veins of the abdomen, is favourable to the operation of pressure in producing the murmur."

He goes on to show, that the reputed utero-placental murmur is in all respects analogous to that heard in the neck of anæmic subjects. It is sometimes an arterial whiff, as in the carotids; sometimes continuous, with augmentations, as in the carotids and internal jugulars; sometimes continuous, with little or no augmentation, as in the jugulars; sometimes whistling, and sometimes ceasing, without assignable cause, as in the jugulars; lastly, it is most marked in anæmic subjects.

These positions, which are illustrated by a series of cases, are advanced by Dr. Hope only as subject to addition or correction. Meanwhile he draws from them the following practical conclusions:—

"1. A near-sounding, high-toned, continuous, or venous murmur, with arterial augmentations, heard opposite to the anterior superior spinous process of the ilium and a little above, does not necessarily indicate pregnancy, because it may exist in connection with other tumors, and also wholly independent of any tumor. It occurs almost exclusively in the thin-blooded, or anæmic with a quick pulse.

2. An obscure, distant, low-toned murmur, synchronous with the pulse and not continuous, though sometimes rather prolonged, heard on a tumor in the hypogastric region, affords presumptions that the tumor compresses the iliac vessels.

3. When either or both of the murmurs coincide with other symptoms of pregnancy, they afford presumptions of this state, but do not warrant an affirmation."

Part II., on the "inflammatory affections of the heart and great vessels," is much extended from the last edition, and contains an immense mass of pathological and practical information. The section on pericarditis is particularly valuable. Difficult of detection as this disease unquestionably is, in its obscurer forms, we think that the practitioner who carefully reads and applies Dr. Hope's observations can hardly err in his diagnosis. The subject of *endocarditis*, or inflammation of the lining membrane of the heart, is also treated with great ability. The diagnosis of this from pericarditis must be acknowledged to be still very imperfect, and the difficulty is much increased by the frequent coincidence of the two affections. Dr. Hope thinks that endocarditis is more apt to occur separately than pericarditis. He sums up his view of the general and physical signs of endocarditis by stating, that it may be anticipated on the *sudden* supervention of the following symptoms:—1. Fever. 2. Violent action of the heart. 3. A valvular murmur which did not previously exist—provided the murmur be well distinguished from that of attrition, which indicates pericarditis. The evidence will be still stronger if these signs occur in connection with acute rheumatism. The mention of the last-named disease reminds us to direct the attention of our readers to a remark of Dr. Hope's

on what is called the *metastasis* of rheumatism to the heart and other internal organs. This has been considered, as the name implies, to be a total change of place, and transference of the morbid action from the external to the internal parts. Our author believes that this is altogether a mistaken notion, and regards the so-called metastasis as merely an extension of the inflammation to the internal fibrous tissues, precisely similar to its migration from the fibrous tissue of one joint to that of another. He declares that he has not only seen, in a great number of cases, the heart attacked while the rheumatism existed in full intensity in the joints, but has also seen the heart invaded before the joints; and that he knows other practitioners who have witnessed the same. The former of these occurrences has repeatedly fallen under our own notice; and we should indeed be further inclined to maintain that there is considerable functional derangement of the heart in almost every case of well-marked rheumatic fever. We infer this from the intense action of the heart; from the hard and vibratory character of the pulse, which are usually much more than commensurate with the other symptoms of inflammatory excitement throughout the system; and from the entire inefficacy of blood-letting in permanently reducing this state of the pulse.

Part III. on the "organic affections of the heart and great vessels," comprises the structural diseases of the muscular substance—of the pericardium—of the internal membrane and valves—and of the aorta. Independently of the excellence of this portion of the work as an exposition of the anatomy and semeiography of the organic lesions of the heart and great vessels, we consider it especially valuable as placing the pathology of the heart in apposition with that of other organs, and pointing out the great influence of its diseases on the cerebral and pulmonary circulation. Though we are indebted to the French writers for the first distinct announcement of these facts, Dr. Hope has kept them more constantly in view, and illustrated them more amply, than any other author.

The following statement of thirty-nine cases, which occurred in the course of two years in the St. Marylebone Infirmary, affords a remarkable illustration of the connection between disease of the heart and cerebral apoplexy:—

"Of the 39 cases, 4 died of apoplexy between birth and 40; 9, between 40 and 50; 6, between 50 and 60; 7, between 60 and 70; 11, between 70 and 80; 1, between 80 and 90; and 1, between 90 and 100.

Hence it would appear, that the periods of life during which fatal apoplexy is most prevalent are between 40 and 50, and between 70 and 80.

We have now to examine in what proportion of these cases disease of the heart existed.

"In 4 out of the 39, the heart was found 'quite healthy.' In 8 cases more, no remark is made in the journals as to its condition; it may therefore be presumed to have been healthy. This affords a total of 12 cases out of 39, in which the heart was sound: in the remaining 27, it was diseased.

Thus, taking all the ages collectively, disease of the heart accompanied fatal apoplexy in no less than 27 out of 39—*i. e.* 9-13ths, or nearly three-fourths.

We will now examine at which of the above periods of life disease of the heart, in connection with fatal apoplexy, was most prevalent.

Between *birth* and 40, disease of the heart was not found in any of the 4 fatal cases that occurred within those dates. Between 40 and 50, it occurred in 8 out of 9!—a remarkable increase. Between 50 and 60, it occurred in 4 out of 6,—a decrease. Between 60 and 70, it occurred in 3 out of 7—a further decrease; and between 70 and 80, it occurred in 10 out of 11!—another remarkable increase.

It would thus appear that the periods of life during which fatal apoplexy is most prevalent, are precisely those in which concomitant disease of the heart is of most frequent occurrence; namely, between 40 and 50, and between 70 and 80.

It was stated above, that, taking all ages together, disease of the heart occurred in 9 cases out of 13, or nearly $\frac{3}{4}$, of fatal apoplexy. Now this proportion is, I apprehend, *much* greater than is generally imagined or believed; and it sufficiently evinces the importance, in medical practice, of carefully studying how far the state of the heart and that of the brain may be allied as cause and effect.

But, in the two apoplectic periods of life, if I may be allowed the expression, viz. between 40 and 50, and between 70 and 80, the proportion is much greater;

for, instead of being 9 out of 13, it is in the proportion of 9 out of 10, and 10 out of 11. Hence, it is desirable to direct our attention, in the treatment of apoplexy, to these two periods more especially; and, in order to do it with effect, it is necessary to investigate the reasons why fatal apoplexy occurs in connection with disease of the heart, during these periods in particular.

Now, on examining the cases occurring between the ages of 70 and 80, 7 out of 10 present ossification of the heart. On the other hand, between 40 and 50, disease of the *muscular* structure of various kinds prevailed, while ossification was comparatively rare.

Hence it appears deducible, as a generalization, that it is disease of the *muscular* structure more especially which causes apoplexy in the earlier period of its prevalence; and that it is mainly ossification which occasions it in the more advanced period."

In the first edition of this work, our author followed Bertin and Bouillaud in enforcing a relation between pulmonary apoplexy and hypertrophy of the right ventricle, similar to that which obtains between cerebral apoplexy and hypertrophy of the left. He has since found reason to doubt the accuracy of this opinion, which has also been relinquished, or at least reduced to the form of a query, by M. Bouillaud. Larger experience has led our author to conclude that pulmonary apoplexy is more uniformly dependent on great contraction of the mitral valve, with or without hypertrophy and dilatation of the right ventricle, than on any other lesion. This conclusion is corroborated by Dr. Wilson. Dr. Hope adds, that he has lately found softening of the heart a frequent cause of pulmonary apoplexy.

Our author's researches on aneurism of the aorta enriched the pages of this journal prior to the first publication of the work before us. In their present enlarged form they constitute an admirable treatise on this lesion. Dr. Hope adds, in an appendix, a remarkable case in which an aneurism of the aorta burst into the right ventricle of the heart, and another, communicated by Dr. David Monro, of Edinburgh, in which the aneurism burst into the pulmonary artery.

Part IV. on "nervous affections of the heart," comprises neuralgia of the heart or angina pectoris, palpitation, and syncope. This portion of the work has received less addition than the preceding. Among the most diagnostic signs of palpitation from anæmia, the author insists on the venous murmur of the jugular veins, especially the internal. He also represents this phenomenon as an invariable attendant on the inorganic murmurs of the heart and arteries.

Part V. on "miscellaneous affections," also stands nearly unaltered from the last edition, with the exception of some judicious remarks on the treatment of polypus of the heart.

Part VI. consists of illustrative "cases," the number of which is augmented in the present edition: of these we are necessarily obliged to omit all notice. At the end of the volume there is a table of pulses indicative of the diseases of the heart. The author hopes hereafter to show, that such pulses imitate all those produced by ordinary diseases, and consequently, that unless the pulses of heart disease be abstracted, the pulse is but a fallacious guide in other diseases. The ambiguities of nomenclature, and the various nicety of touch in different individuals, have rendered the classification of pulses extremely vague from the days of Galen downwards. Dr. Hope's design, however, is meritorious, and, with reference to the more obvious qualities of the pulse, cannot fail to be useful.

In concluding this brief notice, which is very incommensurate both with the importance of the subject, and the merits of the work, it is almost superfluous to say any thing in the way of recommendation. Dr. Hope's treatise is the most elaborate and complete, and the richest in original observation, that has yet been published on the same subject, and as such it is an indispensable book in every medical library.

The Surgeon's Vade-mecum; a Handbook of the Principles and Practice of Surgery: illustrated with numerous Wood Engravings. By Robert Druitt, M.R.C.S.L. H. Renshaw, and J. Churchill, 1839. 12mo. pp. 423.

There must be a large body of students and practitioners who very naturally wish to inform themselves of the most recent improvements in surgery, without the trouble of wading through a horde of original treatises, or the thousand-and-one pages of the voluminous

systems and dictionaries of the day. To such persons Mr. Druitt's hand-book may safely be recommended. It is evidently drawn up with no little labour, and the language is as concise as it can be, without obscurity. The following passage will shew the author's care to include the rarest surgical affection:—

"Hernia Bronchalis (*Bronchalis vera, Goître aërien*) is a very rare tumor, formed by a protrusion of the mucous membrane through the cartilages of the larynx or the rings of the trachea, and caused by violent exertions of the voice. Larrey met with sundry instances of it in French officers, and in the priests that call the people to prayer from the tops of the minarets in Mahommedan countries. The tumor is soft and elastic, can be made to disappear by pressure, and is increased by any exertion. The only available treatment is moderate support."—P. 322.

Altogether Mr. Druitt's work presents a very useful summary of the present state of surgical science and practice.

MEDICAL GAZETTE.

Saturday, October 19, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
Cicero.

SIR JAMES CLARK'S STATEMENT.

We have hitherto abstained from making any allusion to the proceedings at Court in reference to the unfortunate case of Lady Flora Hastings; and we adopted this negative course partly because we had no data—at least none of a public nature—to warrant us in expressing our opinion; and partly out of consideration for her medical attendant, for whose situation we felt, and who, by his own studied silence under reiterated provocations, seemed willing that the subject should be allowed to drop. But Sir James Clark having at length come forward, and given what we unhesitatingly receive as an authentic account of his share in the transaction, we find our position entirely, and, we shall at once admit, rather painfully altered. We do not think that, as public journalists, we should be warranted in any longer declining to discuss a subject which has excited so much attention, and which involves considerations of so much importance both to society at large, and to the medical profession in particular. Putting, then, aside all irrelevant questions, and freed, as we believe ourselves to be, from all participation in those popular and party feelings with which the subject has been mixed up, we shall proceed to consider the question simply as one of medical ethics.

It appears from the narrative of Sir James Clark, that he was consulted by Lady Flora Hastings on the 10th of January, 1839, who at that time laboured under pain low in the left side, with derangement of the bowels and general health. The symptoms thus described gradually yielded to simple remedies, so that after a short period Lady Flora complained only of some remaining weakness. Nevertheless, a considerable enlargement of the abdomen, which had been present throughout, continued undiminished. After Sir James had been about three weeks in attendance, he was sent for by Lord Melbourne, who informed him that it was suspected about the Court that Lady Flora Hastings "might be privately married." To this her medical attendant stated in reply, that "while he thought such suspicions ought not to be readily listened to, he was at the same time bound to admit, that the appearance of Lady Flora in some degree countenanced them;" adding, "that without more ample means of observation, he would not venture to give an opinion on the subject." And here, we humbly submit, was Sir James Clark's first mistake. He does not seem to be aware that, under such circumstances, his declining to give an opinion in fa-

vour of his patient's innocence amounted to a very strong presumption of her guilt. It is a prineiple perfeetly understood in our profession, that the medieal attendant throws himself between his patient and any such gossiping surmise, and defends her reputation to the very last. At all events matters had now come to this pass, that it was Sir James Clark's duty, if he entertained the slightest doubt, immediately to have had the question set at rest, either by instituting the necessary examination himself, or having another person to do so. Instead of this, however, Lord Melbourne's eommunication led to nothing. Sir James eontinued to visit his patient as before, eontenting himself with oecasionally examining the enlargement "over her dress;" till at length being (of course) quite unable to satisfy himself in this way, he one day requested that, at his next visit, he might be permitted "to lay his hand upon her abdomen with her stays removed"—a proposal whieh Lady Flora refused to eomply with. And here we eannot but remark, that there seems to have been a great want of taet in Sir James Clark's mode of proceeding, in thus talking to her about laying his hand upon her abdomen, and having her stays removed; there was a partieularity in all this which would have indueed many young women to decline the proposal. Females will suffer much to be silently done that they will not submit to if it be talked about, and put prominently before them in words. We believe that if Sir James had eontented himself with merely telling Lady Flora that she had better remain in bed next morning till after his visit, he would have had no difficulty in aeeomplishing his object. However, the matter, it might be supposed, was now brought to a crisis. The lady was suspeeted of pregnaney; her medical attendant proposed an examination, which he deemed essential, and this was denied him. Of eourse the reader will expect to learn that Sir James Clark now declined to take any further responsibility. Not at all; he eontinued his visits as before till the 16th of February, when he was informed that that whieh he ought to have done had been determined upon by by others—namely, that another physieian should be sent for to deeide the question of pregnancy. The proposal did not emanate from Sir James; and here is evidently one of the greatest errors of judgment he displayed in the course of this unhappy business. As soon as a suspicion of pregnaney was known to be entertained, the path lay clear before him: instead of fearing the presenee of another physician, he ought to have sought for it, and been relieved by the opportunity thus afforded him of deelaring that the question was no longer one which fell within his province. His namesake would then have been sent for at his suggestion, instead of being thrust upon him, and, in all probability, the whole of the misehiefs whieh have sinee pressed so hard upon him would have been avoided.

The referenee to a seeond opinion having thus been determined upon by others, he proceeded to Lady Flora on the 16th of February, to make her acquainted with this decision, and she at once agreed to see Sir Charles Clarke. Here there occurs in the narrative of Sir James a cireumstance which shows how much he deceives himself as to the degree of eonsideration and forbearance which he supposes himself to have shewn to Lady Flora. He had been six weeks in attendance without proposing that any other person should be ealled in; but now he abruptly urges her "to see another physician at onee"—"to see him on that day"! Did it never strike him as unreasonable to expect that she should, at the instant, accede to what he had been so long in attendanee without thinking it neeessary to suggest? That she who had reeently shrunk from

the examination of her person without her stays, should "at once" bring her mind to the more revolting procedure which he now proposed? She did, indeed, "at once" agree to see Sir C. Clarke; but because she did not consent to send for him on the instant, Sir James informs us that it lessened very considerably the effect produced on his mind by her protestations of innocence—an admission which, in our opinion, savours strongly of a foregone conclusion, and one which probably influenced his deportment to an extent of which he was not himself aware. In fact, it appears from his own showing, that, immediately after his interview with Lady Flora, he expressed his opinion of her guilt to the Duchess of Kent, in no equivocal terms.

An examination was made, as our readers well know, and of the result of which all the world is aware. And this brings us to another point in the "Statement," namely, a direct reference to Sir Charles Clarke—associating him with some not very intelligible expressions connected with the case. We shall quote them. "And if any thing further were required to establish the difficultics of this very peculiar case, and the heavy responsibility attaching to a decision on it, Sir Charles Clarke knows that there are other facts connected with it which prove, in the most unequivocal manner, both the one and the other—facts which do not throw the slightest shade of doubt on the purity of Lady Flora, nor are matter of blame to any one, but which it is not necessary to bring before the public."

Now this would appear to refer to something which passed at the consultation, but not in any manner involving the results which followed. Such being the case, pray what is the purpose of the paragraph—what the object of its introduction here? The most obvious interpretation certainly is, that Sir C. Clarke had expressed some doubts or misgivings upon the subject, and thus placed himself more nearly than the world imagines in the same position as his namesake. We earnestly trust, however, that we are mistaken in supposing that it relates to any thing which passed in private at the consultation, because we conceive that any such reference is a breach of professional ethics. The opinion by which Sir Charles Clarke was to stand or fall he gave in his certificate, and as regards this question the public has nothing to do with any thing else.

Upon the whole, we think that Sir James Clark was too much under the influence of the scandal-mongers, to protect his patient as he ought to have done; and with his mind imbued with their suspicions, he neither had the prudence to insist upon the necessary examination himself, nor yet the wisdom to have it instituted by another. He was thus placed in a situation of embarrassment, from which, as it appears to us, he was prevented from extricating himself, simply by the wish to avoid suffering any other medical attendant to be employed about the Court.

Such we regard as the sum of his offending; and it is an error which many might have fallen into without suffering nearly so severely as he has done in consequence. Now two circumstances have led to Sir James Clark being visited more severely than another might have been: first, the whole affair has been made a party question, and some of the newspapers have shewn an equal want of candour, moderation, and even of common justice, in the way they have treated him. But again: the extent to which Sir James has suffered is also partly dependent upon some by-gone, but, it would appear, not forgotten conduct of his own:—we refer to the medical appointments to the royal household which were made on the accession of her present Majesty.

At the time alluded to various changes took place. Sir J. Clark's own name was placed first on the list of Court physicians, and the minor appointments were many, if not all of them, known to be more or less influenced by his views and wishes. Some gentlemen who had held medical appointments during the preceding reign, and, we believe, most faithfully discharged their duties, were unceremoniously dismissed — the office of one, we have understood, merging into that held by Sir James himself. The medicines, too, were no longer supplied as before, but furnished by a chemist the protegé — a very meritorious one, but still a new man, and the protegé — of Sir James Clark. Now we do not say that many persons would not have served themselves and their friends in like manner, had they had similar opportunities; but still, whoever adopts this line, must make up his mind, if the day of adversity come, to find many who, if they do not positively rejoice in his misfortunes, at least feel no such sympathy for him as his case would otherwise undoubtedly have excited.

But although we do not think Sir James Clark acted very wisely, yet we are quite sure that the same thing might have occurred, under different circumstances, without any such formidable results as have followed on this occasion. It is the use which has been made of these unfortunate events for party purposes which has rendered them so injurious to the Court physician;—and this ought to be an impressive lesson to all those who are ambitious of such dangerous honours. Another point strongly illustrated by these events is the imprudence of attempting to monopolize royal favours. Had Sir J. Clark not been so apprehensive of a rival near the throne, but had some other of the Court physicians called into consultation; or if, on the first question of pregnancy, he had declared it to be out of his department, and required that his namesake might be sent for— how different a position would he now have occupied!

As to the pamphlet which has called forth these remarks, (remarks which our long silence will shew that we have been reluctant to make), we cannot see in what manner it can possibly do him any good, and we think Sir James has been ill advised in publishing it. Many supposed that his long and apparently pre-determined silence resulted from deference to some person or personage who would unavoidably become implicated in the disclosures which he had to make. But this idea he has entirely destroyed by his pamphlet — concerning which people will marvel, if he thought it worth publishing at all, why it was not done—at once.

SIR JAMES CLARK'S STATEMENT OF THE CASE OF THE LATE LADY FLORA HASTINGS.

So long as the accusations brought against me, in reference to the case of the late Lady Flora Hastings, continued to be either anonymous or unauthorised, I felt it right to submit in silence to every species of provocation, rather than bring before the public circumstances of a very delicate nature, which came within my knowledge in the implied confidence of professional intercourse. The publication, however, of the Marquis of Hastings, the nearest relative of Lady Flora Hastings, made me doubt seriously whether in regard to myself, as well as the profession, I was justified in not laying before the public an account of the case so far as I was concerned. The renewed attacks which have followed that publication permit me no longer to hesitate; although, even now, it is with utmost reluctance I bring myself to enter into details which I am of opinion ought never to have been made the subject of public discussion.

On the 10th of January last I was consulted by Lady Flora Hastings, who had that day arrived from Scotland, and had come into waiting on her Royal Highness the Duchess of Kent. She had derangement of the bowels, and of the general health, and she complained of pain low in the left side. There was also considerable enlargement of the lower part of the abdomen.

Under the use of some very simple

remedies, the derangement of the bowels and the pain in the side gradually abated, and ultimately ceased; and Lady Flora complained only of weakness.

The size of the abdomen, however, continued undiminished, and Lady Flora's appearance became the subject of remark in the palace. About the 1st of February, as nearly as I am able to fix the date, I was sent for by Lord Melbourne; and on going to him, his Lordship informed me that a communication had been made to him by Lady Tavistock, respecting Lady Flora Hastings, whose appearance had given rise to a suspicion in the palace that she must be privately married; his lordship asked my opinion on the subject. I stated, in reply, that while I thought such suspicions ought not to be readily listened to, I was at the same time bound to admit to him that the appearance of Lady Flora in some degree countenanced them. I added that without more ample means of observation, I could not venture to give an opinion on the subject; and his lordship agreed with me that no step should be then taken in the matter.

From this time the condition of Lady Flora Hastings caused me considerable anxiety. The only source, besides pregnancy, from which the size and peculiar form of the abdomen could proceed, was disease, but the probability of disease being the sole cause in Lady Flora's case was diminished by the circumstance that the enlargement was accompanied by very little derangement of health. In fact, Lady Flora continued to perform her usual duties with apparent little inconvenience to herself.

I continued to visit Lady Flora about twice a week, from the 10th of January to the 16th of February, and on several occasions examined the state of the abdomen over her dress; but being unable, in this way, to satisfy myself as to the nature of the enlargement, I at length expressed to her my uneasiness respecting her size, and requested that, at my next visit, I might be permitted to lay my hand upon her abdomen with her stays removed. To this Lady Flora declined to accede.

Matters remained in this state until the 16th of February. On that day I found it had been determined that I should acquaint Lady Flora with the suspicions which existed in the palace, and should suggest her calling another physician into consultation with me. Before visiting Lady Flora, I asked Lady Portman, the lady in waiting, if I might use her name to Lady Flora, as one of the ladies who entertained the suspicion respecting her. To this Lady Portman at once assented. Her Ladyship then described the peculiarities in Lady Flora's form and carriage which had produced the impression in regard to her state. To the question as to what my opinion on the subject was, I replied that the appearances were certainly suspicious, but that even to medical men such appearances were often deceptive. Lady Portman concluded by observing, that for the sake of Lady Flora Hastings herself as well as of the court, it was necessary that the matter should be cleared up. Immediately after this interview with Lady Portman, I went to Lady Flora for the purpose of making to her this very unpleasant communication: and I need hardly add that I made it in the most delicate terms which I could employ. After a few remarks on the state of her health, I told her that her size had attracted the attention of the ladies, and that it was now my painful duty to acquaint her ladyship that they had in consequence been led to suspect that she must be privately married. This was the mode and these were the words in which the painful communication was made.

I urged Lady Flora, for obvious reasons, if there were grounds for this suspicion, to acknowledge the fact, and if not to see another physician at once, to put an end to the rumour. Lady Flora denied that there were any grounds whatever for the suspicion, and named Sir Charles Clarke, who she said, had known her from her childhood, as the physician she would wish to be called in; but she declined, notwithstanding my earnest entreaties, to see him on that day. This refusal, after the reasons which I had given, lessened very considerably the effect upon my mind of her Ladyship's denial.

After the interview with Lady Flora it remained for me to communicate what had passed to Her Royal Highness the Duchess of Kent. I therefore informed Lady Flora that I was going to Her Royal Highness for that purpose; to the propriety of this Lady Flora immediately assented. I accordingly went to the Duchess of Kent, and stated the nature of the interview I had with Lady Flora. Her Royal Highness immediately expressed her entire disbelief of anything injurious to Lady Flora's character, and she asked me my opinion. However reluctant I felt to express any doubts on the subject after Lady Flora's declaration, I could not decline giving a conscientious reply to Her Royal Highness's question; and I answered to the effect that the suspicions I previously entertained were not removed.

In the course of the evening of the day on which I made the communication to Lady Flora Hastings, I received a note from her Ladyship, of which the following is a copy:

"Saturday.

"Sir,—Although I think you perfectly understood me this morning, that I did not

wish you to take any steps without hearing from me, it is perhaps better, to obviate the possibility of any mistake, that I should distinctly say so. I shall be governed entirely by Her Royal Highness's wishes and orders.—Yours sincerely,

"Flora Eliz. Hastings."

I heard nothing more on the subject till the afternoon of the following day, (Sunday, February 17th,) when I received another note from Lady Flora, of which the following is a copy:

"Sir,—By her Royal Highness's command I have written to ask Sir Charles Clarke to name an hour this afternoon to come to me. He has answered my note by coming, and is now here. Could you come and meet him?—Yours sincerely,

"F. E. Hastings."

On receiving this note I immediately went to Lady Flora, and found Sir Charles Clarke with her Ladyship. He stated to me, in Lady Flora's presence, as part of the conversation he had had with her, that he urged her, if there were any grounds for the suspicions entertained, to admit the fact now, as after the examination it would be too late.

After this conversation, Lady Flora requested that Lady Portman might be called in. On her arrival, Lady Flora retired to her chamber, where her maid was in attendance. After Sir Charles Clarke had made an examination, he returned with me to the sitting-room, and stated as the result, that there could be no pregnancy; but at the same time he expressed a wish that I also should make an examination. This I at first declined, stating it to be unnecessary; but, on his earnestly urging me to do so, I felt that a further refusal might be construed into a desire to shrink from a share of the responsibility, and I accordingly yielded. After finally consulting, we gave the following certificate.

(Copy of Certificate.)

"Buckingham Palace, Feb. 17th, 1839.

"We have examined with great care the state of Lady Flora Hastings, with a view to determine the existence or non-existence of pregnancy, and it is our opinion, although there is an enlargemeent of the stomach, that there are no grounds for suspicion that pregnancy does exist or ever did exist.

"Charles M. Clarke, M.D.
"James Clark, M.D."

Before parting with Lady Flora both Sir Charles Clarke and myself pressed upon her Ladyship the expediency of her appearing on that day at table as usual.

Such is a plain statement of the leading facts of this unfortunate case, so far as I am concerned. That I was unable to ascertain the true nature of Lady Flora's state, I at once admit, and most deeply regret: but when the difficulties which frequently occur in cases of this description, even where every facility is afforded for investigation, are considered, it can scarcely be made a matter of reproach to me that, amidst the disadvantages under which I laboured, I was unable to affirm that Lady Flora's change of appearance was the result of disease, and of disease alone. If even Sir Charles Clarke did not venture to express a positive opinion until after a careful examination, it will be readily conceded that no other person could have done so without recurring to some similar proceeding. And if anything further were required to establish the difficulties of this very peculiar case, and the heavy responsibility attaching to a decision on it, Sir Charles Clarke knows that there are other facts connected with it which prove, in the most unequivocal manner, both the one and the other—facts which do not throw the slightest shade of doubt on the purity of Lady Flora, nor are matter of blame to any one, but which it is not necessary to bring before the public.

The *post-mortem* examination established the fact, that the death of Lady Flora Hastings was occasioned by extensive disease, dating its origin "at some former and distant period of time;" and yet such was the obscurity of the symptoms which, during life, accompanied the disease, that its nature became evident a few weeks only before Lady Flora's death; and the fact of its having involved every organ within the abdomen was revealed only by the *post-mortem* examination.

I think it right to notice, in this place a part of my conduct which may at first sight appear censurable. I allude to the admission of my suspicion, that Lady Flora might be pregnant, before I had been permitted more fully to examine into her state. Under almost any other circumstances it would have been highly improper for me to have answered an inquiry on such a subject; but as I could not authoritatively remove suspicions founded upon appearances, which taken alone, would in a great majority of cases indicate what was feared, and not the singular state of disease revealed after the death of Lady Flora, I felt it my duty, considering the very peculiar responsibility which attached to me, to confide the doubt which was in my own mind to those who had a right to demand my real opinion, and who, I felt assured, could not use it in a manner unfriendly to Lady Flora.

I shall now notice such parts of the

publication of the Marquis of Hastings as more particularly relate to me. An extract is given by his lordship from a letter written by Lady Flora Hastings to the Dowager Marchioness of Hastings, dated March 13, nearly a month after the event, in which it is stated, that at my visit to communicate to Lady Flora the suspicions entertained respecting her, I became "violent and coarse, and even attempted to brow-beat" her ladyship!—I hope I may refer to my character alone as a sufficient reply to this accusation; moreover, on the occasion referred to, there could be no motive for such conduct. Any earnestness that I may have shewn in my manner could have for its object only that Lady Flora, for her own sake, should see Sir C. Clarke on that day. In corroboration of my own solemn disavowal of the conduct imputed to me, I refer to the two notes, already given in my narrative, which I received from Lady Flora Hastings within twenty-four hours after the very occasion on which I am said to have thus acted; and, consequently, at the very time when all her feelings may fairly be supposed to have been more excited by the alleged conduct than at any subsequent period: and as still more direct evidence, I would further refer to Lady Flora's letter to her uncle, Mr. Hamilton Fitzgerald, dated March 8th, in which—although written for the express purpose of making her griefs known to a relative, with whom she had no motive for reserve, and, therefore, in the very circumstances, calculated to elicit complaint—not a word escapes her, blaming my conduct or language during either of my interviews with her. On the contrary, expressions occur which she surely could not have used had she really then felt that I had acted towards her in an unfriendly manner.

That Lady Flora intended to misrepresent what had actually occurred I do not for a moment believe. Under the circumstances of excitement in which she was placed, it need not create surprise that she should unconsciously have allowed impressions, arising out of discussions which afterwards took place, to grow upon her mind, till she at length confounded them with facts, or that she should have greatly exaggerated what did actually take place. It is only in this way that I can account for some of the statements made by Lady Flora Hastings.

Her ladyship's written account of the circumstances which took place during the interview on the 16th February, at which we alone were present, differs widely from my recollection of them. I think it necessary to notice two points in particular:—The first is the alleged diminution of Lady Flora's size. On this I shall only observe, that I could discover no such diminution, else I should have been too happy to have availed myself of the circumstance to clear Lady Flora's character, and to have relieved myself from a very embarrassing position. The second is, that I told Lady Flora that she must submit to a "*medical examination.*" I not only never used such an expression, but never heard it employed for what it has been assumed to imply, till after the unfortunate affair was over; in fact, I then believed that a full external examination would prove sufficient to decide the matter. Everything, consequently, which has been asserted about a "medical examination" having been suggested by the ladies, or by me, is utterly groundless.

The only other parts of Lord Hastings's correspondence which require notice from me are two charges brought forward by his lordship. The first consists of a statement said to have been received from Lady Flora's own lips, that the examination "was conducted with more than ordinary disregard to delicacy and to her feelings." In corroboration of this charge, his lordship has referred to a deposition on oath, by Lady Flora's maid, "that the conduct of Sir James Clark and Lady Portman was unnecessarily abrupt, indelicate, and unfeeling!" I notice this charge, in passing, merely to give it a peremptory denial. The other charge is in the following words: "Some questions having been put to my sister, and answered, it was suggested that the inquiry ought not to proceed further, and that they might now feel quite satisfied. Sir James Clark objected, and stated that the ladies of the court would not be satisfied without the strictest examination; and that if Lady Flora knew her own innocence, she could have no reason to oppose the most complete scrutiny." The simple reply to this is, that *no such suggestion was ever made, and no such objection ever urged.* Upon what authority Lord Hastings makes this statement he has no nowhere mentioned, and I am utterly at a loss to conceive, unless, indeed, it be on that of the foreign maid, to whose oath he before refers, and whose knowledge of English may not have been sufficient to enable her fully to understand what was passing. But I cannot avoid expressing my regret that his lordship did not procure the testimony of the only witness present during the *whole* consultation —Sir Charles Clarke—before he made such grave charges. Had he followed this course, I venture to affirm they never would have been made. Sir Charles Clarke, although he might not have thought it proper to discuss with Lord Hastings the details of what passed at the consultation, could not have hesitated,

had he been appealed to, to refute such groundless accusations.

It remains for me now only to repeat my sincere regret that I was unable to relieve Lady Flora Hastings at once from every suspicion. No one has felt more acutely than myself, during the whole of this painful affair, the distress occasioned to Lady Flora and her family, whether arising from original circumstances or from the matter being afterwards forced into public notice.

Deeply painful as it has been to me to see my name so long associated with alleged acts and motives at which my very nature revolts, the consciousness of my own rectitude, the friendship of those who, from long and intimate acquaintance, know me to be incapable of the conduct imputed to me, and a firm reliance on justice being ultimately done to all parties, have supported me under an accumulation of attacks such as few professional men can have been subjected to.

JAMES CLARK, M.D.

George Street,
Oct. 7.

PRIZE EXAMINATION, APOTHECARIES' HALL.

BOTANY.

Examination Paper, October 9th, 1839,
Hours from 10 A.M. *till* 10 P.M.

1. What is botany? What are its subjects and objects, and what the most important subdivisions of the science?

2. State briefly the opinions of Schleiden on phytogenesis.

3. Describe and give examples of fibro-cellular tissue.

4. What are bothrenchyma, pleurenchyma, trachenchyma, and cinenchyma? Give examples of each.

5. What are the compound organs in flowering plants?

6. Give the external and internal anatomy of a leaf; and account physiologically for the varied configurations of simple and compound leaves.

7. What is the chemical composition of vegetable tissue?

8. Are the membrane of cellular tissue and the subsequent deposits formed of the same chemical substance?

9. What are the conditions necessary for the germination of a seed; and the chemical and physical phenomena accompanying that process?

10. What are the effects produced by vegetation on the atmosphere?

11. What is the action of light upon plants?

12. Describe the structure of the ovulum before and after fecundation.

13. Describe the structure and give examples of the following fruits: viz.—Folliculus, legumen, lomentum, pyxidium, regma, etærio, syncarpium, nuculanium, hesperidium, pomum, pepo, and bacca.

14. Describe the circulation of the sap, both general and special.

15. What were the earliest adumbrations of the natural scheme; and what its chief progressive stages of improvement?

16. Do any of the orders abounding in dietetic plants contain poisonous species? If so, give some examples.

17. Give the characters of the following natural orders, and mention the most important medicinal products furnished by each order.—Ranunculaceæ, Umbelliferæ, Violaceæ, Guttiferæ, Euphorbiaceæ, Cinchonaceæ, Leguminosæ, Anacardiaceæ, Polygonaceæ, Asteraceæ, Labiatæ, Zingiberaceæ, Fungi, Lichenes, and Algæ.

18. Describe, in Latin, the plants numbered 1 to 12; and name the natural orders to which they respectively belong.

1. Polygonum Persicaria.
2. Solanum nigrum.
3. Leucojum autumnale.
4. Liatris spheroidea.
5. Daphne pontica.
6. Cytisus capitatus.
7. Hydrangea arborescens.
8. Euonymus europeus.
9. Hibiscus syriacus.
10. Aloe margaritifera.
11. Jasminum fruticans.
12. Lobelia erinoides.

These plants were given to the candidates unnamed.

N. B. WARD.

Number of candidates—*Eight.*

DR. BURNE'S PAPER ON THE CŒCUM.

To the Editor of the Medical Gazette.

SIR,

IN my second memoir on the cœcum, and appendix just now published in vol. xxii. of the Medico-Chirurgical Transactions, I regret very much to find that the allusion to an article on the same subject by Dr. Copland in his "Dictionary of Practical Medicine" has been omitted, the circumstances of which I wish to explain, because of the high character of Dr. Copland's work, as well as out of regard to myself.

On account of the length of my second memoir, the Council of the Medical and Chirurgical Society returned it to me twice, urgently requesting that I would curtail it as much as possible; and, in order to meet their wishes, I, on both occasions, cut out several pages, amounting in all to 8 out of 34 MSS. in which was,

I am concerned to find, the reference to Dr. Copland and others. I should therefore feel greatly obliged to you to insert in the GAZETTE the accompanying paragraphs, extracted from the copy of the memoir read at the society, as the best reparation now in my power to make.

I am, sir,
Your obedient servant,
JOHN BURNE.

24, Lower Brook Street,
October 9th, 1839.

[We regret that we cannot make room for the extract, but we conceive that Dr. Burne's object will be fully accomplished by the insertion of his letter.—ED.GAZ.]

SINGULAR CASE OF A WOMAN DELIVERED OF FIVE CHILDREN.

GIUSEPPA CALIFANI, of Naples, at the age of fourteen years and three months, was married to a man aged twenty-seven, by whom she had ten children at eight accouchements; at the fifth and sixth producing twins. She lived with her husband ten years, and remained a widow three years after his death; she then took a second husband, whose age was about twenty-nine. After two regular accouchements, upon her third pregnancy she became enormously large; so that, at seven months, she appeared to be at the termination of her natural period. She was taken, however, at seven months, with labour-pains, and brought forth successfully, and by natural presentations, five living children, all of whom were baptised. The mother did not suffer any thing extraordinary. Four of these children were females, and one male. The male infant was delivered first, and after a few minutes, one female; then, after a cessation of fifteen minutes' interval between each, the other three followed. The infants much resembled each other, and were of a regular form, and well grown, and very nearly of the ordinary size of a seven months' fœtus; each weighed about 3½lbs., and measured in length a French foot. The insertion of the umbilical cord was about four lines lower down than ordinary. The placentas with their membranes were four instead of five; and each had its proper umbilical cord, except the fourth, which contained two in one large sac. The fœtus, with their membranes, placenta, and umbilical cords, are preserved in the Royal Anatomical Museum of the University of Naples. Vincenzo Licci, of Calimera, in Otranto; Vincenzo Massari, of Molfetta, in Bari; and Dr. Antonio Scacani, of Naples, conducted the examination.—*Bulletino delle Scienze Mediche*, and *British and Foreign Medical Review.*

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Oct. 10, 1839.

John Marshall, Chesterfield.—John Lambert, Bradford, Yorkshire.—Thomas Godfrey, King's Cliffe.—Walter John Bryant, 50, Edgeware Road, London.—William Potts, Carlisle.—Henry Sharp, Copp. Garstang, Lancashire.—William Henry May, Leicester.—Henry Rust, Dunmow.—Geo. John Vine, Hadlow, Kent.—John Waldo Pring, London.—Charles Moore Collyns, Dulverton.—David Thomas Llandilo.—Thomas Watkin Williams, Ystradvelltey.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Oct.* 15, 1839.

Abscess	1	Hooping Cough	4
Age and Debility	27	Inflammation	16
Apoplexy	3	Bowels & Stomach	7
Asthma	4	Brain	2
Cancer	1	Lungs and Pleura	6
Consumption	37	Jaundice	1
Convulsions	16	Liver, diseased	1
Croup	1	Measles	9
Dentition	5	Mortification	2
Diabetes	2	Paralysis	3
Dropsy	12	Small-pox	1
Dropsy in the Brain	4	Sore Throat & Quinsey	2
Dropsy in the Chest	2	Stone and Gravel	1
Epilepsy	2	Thrush	1
Erysipelas	2	Tumor	1
Fever	6	Unknown Causes	59
Fever, Scarlet	26		
Fever, Typhus	2	Casualties	2
Heart, diseased	3		

Increase of Burials, as compared with the preceding week . . . 57

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ *W. of Greenwich.*

Oct.	THERMOMETER.	BAROMETER.
Thursday . 3	from 36 to 53	29·89 to 29·71
Friday . . 4	48 58	29·44 29·63
Saturday . 5	47 54	29 96 30·13
Sunday . . 6	40 57	30·19 30·26
Monday . . 7	38 59	30·19 30 13
Tuesday . . 8	44 59	30·05 29·91
Wednesday 9	50 68	29·80 29·72

Winds, S.E. and N.E.

Except the afternoons of the 8th and following day, cloudy. Rain fell on the morning of the 4th and evening of the 9th.

Rain fallen, ·4 of an inch.

CHARLES HENRY ADAMS.

RECEIVED FOR REVIEW.

Verity on Civilization.
Ryan's Illustrations of Midwifery, No. 1.

NOTICE.

The conclusion of Dr. Knox's paper is delayed on account of the woodcuts.

W. OGILVY, Printer, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, OCTOBER 25, 1839.

THE CROONIAN LECTURES

For 1839.

By John Clendinning, A.M. & M.D.
Of Oxford, &c. and Senior Physician to the St. Marylebone Infirmary.

As delivered at the Royal College of Physicians, May 15, 17, 22.

ON THE DIAGNOSIS OF DISEASE OF THE HEART.

Varieties of the pulse.—Rhythm.—Pulse depends on dynamic condition principally.—Pulse ambiguous.—Palpitations.—Cases.—Sex and age.—Summary of cardiac diagnosis.

Pulse.—Nothing could be more natural than the *à priori* expectation that if any vital action were, more than others, capable, by the mode of its accomplishment, of indicating the condition of the heart, that action must be the arterial pulse; and on this reasonable presumption has, it appears to me, been founded much speculation regarding the diagnostic import of various modifications of that action. But the importance of the character of the pulse has been maintained likewise on experimental grounds. Quite recently, a distinguished cardiologist of this metropolis presented to the Royal Medical and Chirurgical Society a paper in which a considerable number of varieties of pulse were pointed out as indicating various morbid conditions, and amongst the number several that he had found to indicate certain diseases of the heart. Now without contesting any of the views of that distinguished pathologist, which I should mention were given as conclusions from numerous and original facts, which facts themselves were not communicated, I will acknowledge that for my own part I have not observed more than a very few important varieties of pulse which I could with confidence refer to known cardiac morbid conditions, and which might therefore be considered as diagnostic symptoms, and of those conditions part only are structural. The varieties of pulse I allude to are—

1. The quick pulse.
2. The slow pulse.
3. The large pulse.
4. The small pulse.
5. The soft pulse.
6. The hard pulse.
7. The jirking and thrilling pulses.
8. The intermitting and reduplicating pulses.

Respecting the quick and slow pulse little need be said. They indicate dynamic conditions only, and their causation is so multifarious that it may be held that, except incidentally and indirectly, they can have no peculiar interest in their relations to cardiac diagnosis.

Not so the large and small pulses, which both indicate important states of the heart. The large pulse implies an ample ventricle with valves and arteries in an effective condition; but it implies also a sthenic state of the cardiac parietes, in which alone it differs constantly from its opposite, or the small pulse. The latter, or small pulse, implies an arterial current of small volume and inferior power, and may arise from any of various conditions. It often occurs in ventricular disease, including both increase of weight and volume; but only, I think, after the supervention of the asthenic stage. An enlarged but feeble or sluggish ventricle expels a considerable mass of blood, but with little force, so that when the impulse has traversed the resisting arteries as far as the wrist, it is diminished below the normal standard, and the radial is feebly distended, and smallness of pulse results.

2. Another probable source of small pulse in morbis cordis, is an incomplete

systole; the operation of such a cause must be obvious.

3. A third cause is valvular defect, viz. the interior valves allowing of reflux into the veins, or the aortic orifice being more or less obstructed, by contraction or extreme induration of the valves or circumference of the aperture, &c.

4. Another cause of small pulse is probably some condition, permanent or temporary, of the great arteries, unfavourable to transmission of the ventricular impulse and current.

5. Another obvious cause is defect of proportion or quantity in the blood.

The smallness of the pulse in certain stages of typhus, enteritis, arachnitis, cancer, advanced phthisis, &c. &c., evinces the adequacy of these causes thus partly stated from observation and in part conjecturally assigned; and close observation of morbus cordis shews, or renders probable, their reality.

3. The soft or compressible pulse implies a cardiac action usually little differing from the normal.

But 4. The hard pulse indicates dynamic disease at least, whether permanent or transitory.

5 and 6. The jerking and thrilling pulses. The vital conditions indicated by these in the heart are commonly asthenic, and connected with irritation. The mechanism of their production is obscure. It is probably an abnormal tremulous systole, a contraction insufficiently equable and uniform, owing to want of harmonious action in the multitude of contractile fibres that form the ventricular parietes, the carneæ columnæ, and the septum cordis. Such are the varieties I have noted in the mechanical properties of the pulse as referable to distinct and important structural or dynamic states in the heart.

Rhythm.—With respect to the rhythm, I have observed nothing very specific requiring much comment on that head. This only deserves notice, viz. that irregularity of whatever kind in the rhythm of the heart or arteries is always suspicious, and that though it does not indicate directly or certainly any specific cardiac disease, yet, that when observed in connexion with certain other symptoms, it is a rational sign strongly confirmatory of hypertrophy of the left ventricle at least. Of the healthy circulation it must be remembered, a constant uniform interval between successive actions is, under like conditions as to the operations of stimuli, one of the least variable and most characteristic phenomena. A frequent and, much more, a prolonged deviation from rule in this respect must, I imagine, proceed, if we exclude the neuroses from an enduring morbid tendency, and such enduring disposition to diseased action must have its root in structural mischief. So that even moderate irregularities in the arterial rhythm, provided that they are not constitutionally and purely nervous, as in young women, and nervous youths, portend, I conceive, grave mischief in most instances.

Pulse depends on dynamic condition principally.—Now of all these varieties of pulse there is but one I think that certainly indicates peculiar structural conditions; viz. the large pulse, which of necessity, I presume, proceeds from a large ventricle with effective valves. All the others indicate dynamic conditions only with sufficient constancy to render them available as diagnostic signs. The small pulse, *ex. gr.* may be owing to an obstructed aortic opening, or a defective mitral valve; and the thrilling pulse may likewise arise from either of two varieties of valvular disease, but neither is always, or even generally, referable to organic mischief in the openings of the heart. On the whole, I think it may be held that the character of the pulse depends principally, 1st, on the heart's dynamic condition;—2dly, on the fluids, both as to their mass, density, and stimulating qualities; and in the 3d place only as to frequency and importance on the valvular structure. The dependence of the pulse on vital or dynamic conditions principally, is well shewn by the neuroses of females. And with respect to these diseases, I think I might almost say that I am uncertain which would be the easier task; viz. to enumerate the varieties of arterial action I *have* met with, or to point out those I have *not* met with, more especially in that proteiform disease, *hysteria*.

Pulse ambiguous.—I think then that, in opposition to *à priori* expectations by no means unreasonable, the pulse may be held to furnish little assistance, except as a *rational* sign, in the diagnosis of diseases of the heart; while, *as* a rational sign, it is too subject to fallacy to entitle it to much confidence in cases otherwise doubtful.

Palpitations.—But there is a symptom closely connected with my present subject which is of much importance; I mean palpitation, especially if attended by dyspnœa, and urgent præcordial, epigastric, or substernal distress. This symptom of chronic pectoral disease involving structural mischief in the heart, was one of the first noticed signs in cardiac disorder. From Albertini downwards, whose work is even entitled "De Palpitationibus," it has been by every writer I have consulted treated of as a principal sign of heart disease. To this morbid action primarily I am much disposed to refer the spasmodic asthma of the older writers, which I have for some

years regarded with the suspicion that it was a relic of exploded systems, rather than a traditionary truth confirmed by recent experience. It may seem strange, but I believe it strictly true, that since I fixed my attention, now several years ago, more especially on pectoral diseases, I have scarcely met with a case of supposed asthma, in which pulmonary organic disease, and cardiac disease likewise, have not appeared to me clearly developed, in the shape more especially of bronchitis, or emphysema of the lungs, and of simple hypertrophy of the heart. But whether I am right or not in rejecting spasmodic asthma as a purely bronchial spasmodic disease, from the Nosology, it must be admitted that there is no rational sign of superior value to *palpitation*, in all cases where there is no ground for suspecting the existence of hysteria. Exclusive of pure neurosis affecting the heart, which is comparatively a great rarity so far as I have seen, amongst males above twenty years of age, and amongst females too, I think, of mature and declining years, I am aware of no disease that produces palpitations such as those so justly held to characterize disease of the heart. I have never, in any post-mortem examination of a male, amongst whose symptoms palpitation excited by exercise, passion, &c. or spontaneously arising, especially after night-fall, had clearly existed for any length of time before death, been able to find a heart *normal* in its dimensions, or *structurally sound*. Nor in any class of subjects have I ever met with the palpitations usually described as signs of cardiac disease, without other evidence of morbus cordis, excepting only in the cases of a few unusually nervous females, mostly under forty years of age, and subjects at the same time of hysteria in other forms. Of these cases, so wearisome to the official practitioner, so lucrative in private business, several have certainly presented symptoms of no ordinary difficulty. In the case of two, I was for a time induced by deceptive appearances to prescribe for them on principles considerably differing from those on which I usually treat neurosis in the female.

Cases.—Of the three most striking that I have lately met with, one was a female beyond the sexual age, labouring under dyspnœa with palpitation of long standing. The impulse of the heart was extensively felt, and the sounds were extensively audible. This case was considered by a friend of much experience a case of heart disease. However, on inquiry I learned, that the palpitations had commenced eleven years before, in consequence of a fright, and had continued with little or no intermission up to the time of her admission. I ascertained further, that she had unequivocal phthisical signs, such as consolidation of both lungs to a great extent, in the upper lobes, with cough, &c.; and that the heart's impulse, though rather extensively felt, was not that of a heavy body. My diagnosis, therefore, of *phthisis with neurosis of the heart*, was confirmed some months subsequently by a post-mortem examination. Another case was that of a female under thirty, tall, large, and muscular, who was admitted into the infirmary from the lying-in wards of the workhouse, with dyspnœa, palpitation, vomiting, great pain about the præcordia, and in the epigastric, left hypochondriac, and umbilical regions, with much tenderness, and some fever. This woman had been for some years much troubled with rheumatism, and had sciatica at her admission. There was also very manifestly a moderate hypertrophy of her heart. Her illness was protracted; but so long as I prescribed, as for rheumatism and disease of the heart, she made no decided progress towards recovery; but soon began to mend under the use of steel and the shower-bath. Her vomitings, abdominal tendernesses, palpitations, anorexia, wasting, &c. after a few weeks of anti-hysteric treatment gave place to the opposite conditions. Her menses were re-established, and she was discharged quite well. The third was an interesting case in several respects. It was that of an intelligent young person, whose alvine and uterine functions were perfectly normal, and who complained of a pain at the crown of the head, on which a hard tense swelling, like a node or rheumatic periostitis, was perceptible; and of palpitation with much pain of the whole præcordia, both on pressure and otherwise. The heart seemed to throb with unusual force, and to be palpable and audible over an unusual area. The rhythm and sounds of the heart were quite normal, but the pulse usually exceeded the standard of health. This person had been treated out of doors for heart disease, and was herself persuaded that that organ was gravely affected. Her complaints were of some years standing. Slight exertion caused distressing dyspnœa, and many features of the case favoured the notion of morbus cordis. On these grounds it was determined to continue for a time the cardiac treatment previously instituted, cautiously using leeches, setons, and blisters about the præcordia; and internally ordering prussic acid, digitalis, iodine, &c.: mercury was also employed. But nothing availed her permanently, until it was resolved to adopt a tonic plan of treatment, after which she improved slowly, but steadily. Under the shower-bath, and iron, with full diet, her strength increased, her pectoral distress, pain of head, &c. diminished, and she was at length discharged,

greatly relieved. During the latter part of the treatment at the infirmary, and while an out-patient, she attended the *séances* of the Baron Dupotet, where for the first six weeks no effect was visible. Afterwards, however, she was affected with what she called "confusion and giddiness" without sleep. She never attained to any of the transcendental gifts of magnetic science. For a considerable period the effects of the tonic plan commenced in the infirmary continued, after her transfer to the out-patient list, to serve her very much, and she was able to walk perhaps a mile or more at once, and several miles in a day, but she never entirely got rid of the palpitations, præcordial pain, &c.; all of which, however, seem now principally referable to cardiac neurosis.

The occurrence then of palpitations, as an habitual inconvenience, in the male after 20, and in either sex in mature years, is a rational sign of much interest and importance; and is generally found to indicate enlargement of the heart. But in such cases we are not dependent on rational signs only, for, exclusive of percussion, during the palpitation, it is easy to ascertain by the hand in most cases whether the heart is more bulky and heavy than normal, or otherwise: so that the excessive and irregular efforts of the organ make doubly manifest the cardiac disease, viz:— at once *circuitously*, *i. e.* by functional lesion, and *directly*, *i. e.* by physical evidence.

Sex and age.—There remain still some other topics that would require notice, if there were space, but which I must here omit. They are, sex, age, and dropsical effusion. The purport of my remarks respecting the two former would be to insist on the propriety of taking them into account in all dubious cases, as circumstances exercising unquestionable influence over the development and distribution of morbus cordis. With regard to dropsy, I have virtually to a great extent anticipated what I should have to say on that head, in the observations on renal complications. Dropsy is either local or general. The local may depend on causes of circumscribed influence, and local operation. Such are, hydrothorax from pleurisy, hydropericardium from pericarditis, ascites from peritonitis, hydrocephalus from arachnitis, anasarca from pregnancy, &c. &c. of all of which every hospital furnishes examples. But general dropsy, or dropsy manifesting itself at once more or less in the extremities, chest, and abdomen, depends, according to different pathologists, either on the heart, lungs, liver, or kidneys, or else on the condition of the blood. The hepatic and pulmonary theories of general dropsy are not at present generally received, I think, and appear to me, ætiologically considered, quite hypothetical. General dropsy is every day to be met with without adequate lesion of structure in either organ. The heart is the organ most generally suspected, but of late the renal theory has obtained considerable and very able advocacy. On this last subject I have already offered some observations under the head of renal complications, to which it is unnecessary here to add any thing further. Suffice it to say, that those who incline to the renal theory, or perhaps I should say to the renal-sanguineous theory, admit that the renal dropsy they describe is usually, and I imagine nearly invariably, accompanied by morbus cordis.

In the same way, any pathologist that thinks the lungs or liver to be often in fault as causes of general dropsy, may be considered virtually to advocate the inclusion of pulmonic or hepatic symptoms amongst the rational signs of disease of the heart, since it is clear from my lectures for 1838, that morbus cordis is nearly invariably complicated with, and, I conceive, productive of chronic bronchitis, &c. in the lungs, and enlargement, tenderness, &c. in the liver.

Summary of Cardiac Diagnosis.

The diagnosis of the heart's condition is based upon five principal classes of facts.

1. The direct or physical evidence that is obtainable by percussion and manipulation of the cardiac region, as to the extent of dulness and impulse.

2. The direct and indirect evidence afforded by the sounds of the heart as to their pitch, timbre, rhythm, and extent of diffusion.

3. The rational or indirect evidence afforded by functional lesions of the heart.

4. The indirect evidence afforded by coincident diseases, otherwise complications.

5. The collateral evidence afforded by age, sex, constitution, hereditary predisposition, &c.

The value of the several classes of diagnostic signs above referred to varies much, appearing to graduate from something practically equivalent to certainty down to limited probability, and nearly in the order of their enumeration.

1. The first in distinctness and weight of evidence is the manipulation of the cardiac region, as practised by Senac and Corvisart, and indeed before their time. By the already described application of the hand to the præcordia, the existence or absence of any extensive hypertrophy and enlargement of the heart can be easily and certainly ascertained in nearly all cases in which the cardiac action is sufficiently vigorous. This test is subject to few important sources of fallacy, if to any. But in a very large pro-

portion of cases it is unsatisfactory, on account of debility or sluggishness in the systolic effort, and from pulmonary complications; also, sometimes, owing to corpulence, &c.

2. The next, I think, in order of certainty, when yielding distinct results, is the percussion of the præcordia. The sources of fallacy besetting this test are pulmonary disease, whether of increased or diminished lobular density; and too close proximity below of the liver or stomach. Owing to one or more of those circumstances, the boundaries of the cardiac dulness can, in numerous cases of morbus cordis, not be ascertained with sufficient precision for certainty, in defining the limits of the heart's volume.

3. The next class of signs, namely, the characters of the cardiac sounds as to their *pitch* and *timbre*, their *purity*, *order*, and *diffusion*, is often very ambiguous, and often very decisive. On the whole, the musical characters of those sounds seem of minor practical importance, since they appear very much, if not principally, to depend on fluctuating dynamic conditions in the heart. The diffusion of the cardiac sounds is likewise liable to much variation, owing more particularly to variations of density in the pulmonary lobules and lobes, so that, as a diagnostic element, it is often of little value, being difficultly rendered practically intelligible to the student, and being in several ways liable to misapprehension and misinterpretation by the practitioner in otherwise obscure cases.

With regard, however, to the other characters of the cardiac sounds, viz. their purity, or degree of freedom from abnormal elements, and their rhythm or mutual proportions, and order with respect to the systolic and diastolic efforts, those characters are of great value and importance. With respect to the former, it appears that, exclusive of pericardial friction, a permanent abnormal character of either of the heart's sounds, practically speaking, implies valvular disease, with muscular hypertrophy, and increase of the heart's volume. And the same inference is deducible from permanent suppression of either cardiac sound, or from a masked state of the sound, owing to any coincident abnormal murmur originating in the heart, or at least within the pericardium. Evidence of structural valvular disease is therefore usually decisive of a morbid condition, both structural and dynamic, of the cardiac parietes. But valvular disease being absent in most cases of morbus cordis, no assistance can be had, in the majority of examples, from this character of the cardiac sounds.

The relative proportions as to loudness and duration, of the systolic and diastolic sounds, seems, where there is no valvular mischief, to depend principally on dynamic conditions of a fluctuating nature, and to be, in general, of uncertain import as a diagnostic sign. But the suppression or reduplication of a sound, in cases of pectoral disease, always nearly implies structural mischief: the former usually indicating extreme defect at the arterial orifice; the latter denoting usually imperfect and intermitting systolic effort in a diseased left ventricle, and both affording evidence, little liable to error, of hypertrophy usually with enlargement of the heart.

Of the third class of evidences, or cardiac functional lesions (one or two of which have been unavoidably noticed under the last head), the most frequent, and in many cases the most important, is palpitation. This sign is rarely wholly wanting, if ever, in morbus cordis; often it is spontaneous, at night more especially, when it occurs with great pulmonary embarrassment and consequent dyspnœa, and constitutes sometimes angina pectoris, and sometimes the most common and worst form of asthma, according to the apparent predominance of pulmonary or cardiac disturbance. But in many cases it is not present, unless excited by exercise, passion, stimulant ingesta, &c.; and of all ordinary excitants, the most effectual is quickly ascending stairs, or other inclined planes or passages. The presence of this lesion in suitable circumstances, in adult males and in females past child-bearing, indicates always with high probability hypertrophy of the heart, and is suspicious in all cases not clearly hysterical in their nature.

4. The fourth class of diagnostic signs is complications. Those seem to me of much value, more especially the pulmonic and hepatic. Bronchitis, œdema pulmonum, emphysema, one or more, I have seldom known wholly wanting in confirmed morbus cordis after the fortieth year; indeed, through their means I have often enough been able to satisfy myself about a case the diagnosis of which was rendered obscure, in certain respects, by their presence. Enlargement of the liver, with or without tenderness, general dropsy, and albuminuria, are other coincident states that greatly aid the diagnosis. So frequent, indeed, and well marked, is usually the hepatic complication, that the frequently attendant serous effusions are commonly attributed to disease of the liver. And the coagulable character of the urine, commonly referred to primary renal disease, is, however originated, generally present, so far as my observations extend, in cardiac disease. To the preceding are to be added vertigos, headaches, and other signs of encephalic

plethora, and in advanced life apoplexy, &c. as indicating a cerebral condition commonly associated with morbus cordis.

5. The last head of diagnostic evidence is the collateral evidence afforded by age, sex, conformation, and predisposition, whether hereditary, or acquired through blows on the præcordia, rheumatism, &c. Respecting those sources of information, it is sufficient to say that mature years, the male sex, and an athletic conformation, indicate a predisposition to morbus cordis, as compared with the opposite conditions in all cases; and in suspected cases are circumstances strongly, though generally, and therefore somewhat vaguely, corroborative of the existence of the disease. Ascertained predisposition, whether original or derivative, is of self-evident importance. Of all morbid conformations, that of the subjects of pectoral spinal distortion involves perhaps the strongest tendency to disease of the heart.

On the whole, it may be held, I believe, that the diagnosis of disease of the heart is usually, as to its leading features, of very easy accomplishment, and that there is commonly little difficulty, either by direct or indirect means, of ascertaining whether the heart's structural condition be that of hypertrophy or not, and whether its dynamic state be asthenic and ataxic, or the reverse; but that, with respect to the different cavities, orifices, and valves of the organ, we have in many cases no sufficient means of certainly diagnosticating their diseases, nor, in the present imperfect state of therapeutics, much reason to regre suchdefect in our diagnostic resources.

ON SIPHILIS.

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[*For the London Medical Gazette.*]

Origin of siphilis—Opinions laid down by Hunter, Abernethy, Adams, Carmichael—One virus assumed to be the source of all the varieties of siphilis—Complaints not siphilitic, but in which the virus may find entrance unobserved into the system—Excoriation—Herpes præputialis—Warts.

Siphilis†, lues venerea, lues, is a disease produced by contagion, and evinced by certain local effects or primary symptoms in the part to which the contagious matter has been applied. These are followed by impaired health and special affections of the skin and throat, of the iris, of the joints and bones, and occasionally of other parts, constituting the secondary symptoms of siphilis, or confirmed lues. The ulcer, which forms the local affection, commonly occurs on the genital organs, but it may exist on any other part of the cutaneous surface, or upon the lining of the mucous passages. Secondary siphilis is not contagious, but it may be directly communicated by the mother to the fœtus *in utero*.

The subject naturally divides itself into two parts:—the nature and treatment of the local affections which precede confirmed lues;—the history and treatment of the secondary symptoms of siphilis. Previously, however, to entering upon either of these subjects, there are two questions to be disposed of, the discussion of which will bring under our notice some remarkable general features of the disease, and at the same time get us conveniently through a mass of explanation as to the peculiar opinions of those whose labours have most contributed to advance our knowledge of siphilis. The questions to be prefatorily examined are,—when and how did siphilis take its origin? secondly, is there a plurality of siphilitic poisons?

The first question we are led to ask because we find there was a time, and that comparatively a recent one, in which the disease was thought to commence, and when contemporary observers and writers looked upon and described it as a new pestilence.

The period at which siphilis first attracted general attention was the close of the fifteenth century, when its ravages suddenly extended over the continent of Europe, and its symptoms displayed a virulence and rapidity unknown at the present time. Astruc, in his treatise upon the venereal disease and its origin, has collected the testimony of numerous writers who flourished at or soon after the period mentioned. It will sufficiently answer my purpose to quote a few of his many authorities. Joseph Grundbeck, a German physician, who wrote in the year 1496, uses these expressions respecting siphilis:—"Labem esse tam repentè in homines demissam, ut plaga cœlitùs decussa esse videatur.

* This and the succeeding communications on the same subject are the substance of that part of Mr. Mayo's surgical lectures which treats of siphilis, prepared by himself for publication. The quantity published each week has reference to the space we can allot to one contributor.

† *Siphilis*, from σιφλος, odiosam et invisam faciem habens.

.....Novum esse genus morbi naturæ invisum." Alexander Benedictus, of Verona, who had served as a physician in the army of Charles VIII. and seen the eruption of the disease in 1496, uses the words, "Venereo tactu NOVUM, sed saltem medicis ignotum prioribus, morbum gallicum ad nos ex occidente irrepsisse." Finally, Gaspard Torrella, a Valentian, once a physician, but then a bishop, thus describes, in 1500, the occasion when the disease broke out:— "Gallis manu forti Italiam ingredientibus, et maximè Regno Parthenopæo occupato, et ibi commorantibus, hic morbus detectus fuit. Idcirco ab Italis morbus gallicus cognominatus fuit, arbitrantibus ipsum Gallis connaturalem esse. In Galliâ vero, quia in reversione Regis Caroli cum suis in Galliam, hic morbus apparere incepit, credentes Galli se eum ex Napoli apportâsse, hanc ob causam morbum Neapolitanum vocârunt."

Upon this and similar evidence we are entitled to conclude, either that siphilis originated in or was first introduced into Europe at the close of the fifteenth century, or that, having previously existed there in a milder form, its symptoms became of a sudden frightfully aggravated. The following ingenious reasons are advanced by Mr. William Becket, in the Philosophical Transactions for 1731 and 1732, which favour the latter hypothesis. Local venereal disease, communicable by contagion, had been known in Europe long before the year 1500; and legal enactments had been made, of which curious instances are given both by Astruc and by Becket, to check its spread. Under the vague name of leprosy, again, a state of disease prevailed which, in many of its features, corresponded with lues; and directions even had been given as to the means proper to prevent its communication through intercourse of the sexes. It is therefore possible that among the affections grouped under the name of leprosy, secondary siphilis existed, its connexion with primary venereal disease being as yet generally unsuspected? Leprosy, it may be remarked, went out when siphilis came in, and Locks now appropriated to siphilis were originally provided for the reception of lepers.

It would be drawing this thread of conjecture too fine to speculate on the cause of an effect itself hypothetical, and to attempt to trace the supposed aggravation of the disease to events of the period when siphilis first forced itself on the attention of the world. Yet in our own times there has been experience of more than one sudden increase of the severity of the venereal disease; and it is remarkable that the occasions to which I refer have been the march of armies into foreign countries. After the battle of Jena, Baron Larrey, in giving an account of the French quartered in Berlin, observes, that *the most serious malady was siphilis*, with which considerable numbers of the troops were infected, and which in many presented a very troublesome character. In our own troops in the Peninsula the same circumstance was observed. "In the British army," observes Dr. Fergusson, "in 1812, more men have been mutilated by primary venereal sores, during the four years that it has been in Portugal, than the registers of all the hospitals in England could produce for the last century; while venereal ulceration has not only been more unyielding to the operation of mercury than under similar circumstances at home, but the constitution, while strongly under the influence of the remedy, has become affected with the secondary symptoms in a proportion that could not be expected." Dr. Fergusson attributed the destructive effects of the venereal virus when transmitted from the natives of Portugal to the British, partly to its being in some measure new—a branch of the virus which had become modified by passing for several centuries through a stock of different habits, constitutions, climate; partly to the state of health of the parties who received the infection. It is to be observed that the Portuguese, who communicated the disease in this virulent form to our men, experience it themselves in the mildest form, for which they never take mercury.

Now if we are at liberty upon the strength of these instances to suppose that the effects of the poison of siphilis are sometimes aggravated when the disease is transmitted by the natives of one country to those of another, (a circumstance which can only be well ascertained when numbers are simultaneously collected under medical observation,) we seem to understand why, in the French invasion of Naples, the disease, on the supposition that it before existed in a milder form, might suddenly have

became virulent there. It is true, a difficulty would still remain in accounting for its general diffusion in the aggravated form through Europe.

The preceding argument tends likewise to exonerate the followers of Columbus from the imputation of having imported siphilis from the West Indies. But if we may believe Mr. Bacot, from whom I quote the following statement, there is better testimony in their disculpation:—As early as 1488, Peter Martyr, who was physician to the King of Spain, writing to Arius Lusitanus, the Greek professor of Salamanca, adverts to the new disease of their times, and specifies the "membrorum hebetudinem, junecturarum omnium dolores, ulcerum et oris fœditatem," which accompany it. Now the same physician was at Barcelona when Columbus made his appearance there after his first voyage, but he does not say one word about the importation of the disease in any of his writings. Neither does Columbus, nor his son Ferdinand, who wrote the history of his father's life, in which he gives a description of all the diseases which afflicted the Spanish adventurers up to 1496.

The question next to be considered is, whether there are one or more siphilitic poisons; that is to say, whether the diversities which manifest themselves in the features of the disease are attributable to differences existing in the material of infection, or in the condition of body of the recipient.

It is desirable to look as far back as the publication of Mr. Hunter's views to elucidate this inquiry. Mr. Hunter held that there was one venereal disease, presenting certain definite primary symptoms, and which was in all its stages distinguishable from affections resembling it by yielding to the influence of mercury, which he considered its proper, exclusive, and specific remedy. However erroneous the view so stated will be proved to be, or to whatever extent rather it may require to be modified, it would be unjust to that great surgeon and physiologist not to admit that in his writings much is accurately and philosophically observed of the nature of siphilis, and that especially the following important observations are due to him.

I. The recognition of a special form of local ulcer as characteristic of the siphilitic poison. And it is remarkable that although we now admit that local ulcers of another character are liable to follow impure intercourse, and to infect the system, still the opinion universally maintains its ground, that the appearances specified by Hunter are most decisive as to the nature of the disease.

II. The recommendation, only too strongly expressed, of the employment of mercury in the complaint so identified. Agreeably with which it is in that particular form of the complaint that surgeons are still agreed upon the propriety of employing mercury.

III. The theoretical principle, that mercury cures venereal *action*, but does not remove the *disposition* previously formed, and which is not yet come into action. A proposition true at the present time, if we alter it to this form—that in the cases to which mercury is applicable it removes the existing symptoms, but does not prevent, when the constitution is already affected, new classes of secondary symptoms manifesting themselves.

IV. The expression of the principle, that although mercury does not destroy the disposition already formed, yet that it prevents it forming. In other words, that mercury administered for certain primary symptoms tends to prevent constitutional lues.

V. The recognition of the fact, that the matter of secondary siphilis is not infectious. A principle the correctness of which has finally been demonstrated by the experiments of Ricord.

It is interesting to observe, what, and how little modification, upon these important points, Mr. Hunter's opinions admit of, from the enlarged science and observation of the present day, and how near and like they are to truth. Mr. Hunter was himself fully aware of the extent of the field which he left unexplored, and of the existence of a number of cases resembling venereal cases, which are rebellious to his principles; and these he adverts to, and in a degree exemplifies, and recommends their investigation to his successors.

Mr. Abernethy, in his views the closest follower of Hunter, pursued with diligence the examination of the irregular cases of siphilis, or of those which would not yield to mercury. These cases, supposing them of spontaneous origin, he classed together under the head of pseudo-siphilis. But he in no respect disencumbered himself of the

erroneous opinions of his eminent predecessor. One of Mr. Hunter's incorrect generalizations was, that the disease once established "goes on increasing, without wearing itself out." And we find Mr. Abernethy thus expressing his conviction of the truth of a branch of this false doctrine, while at the same time he was adding useful materials to the general stock of information respecting the disease.

"A very simple fact," observes Mr. Abernethy, "has enabled me, in most cases, to distinguish between the two diseases (siphilis and pseudo siphilis), yet, simple as it is, if it be generally true, it is very important; and if it were universally true it would be of the highest consequence. The fact alluded to is, that the constitutional symptoms of the venereal disease are generally progressive, and never disappear unless medicine be employed. It may be added, too, they are as generally relieved under an adequate effect of mercury on the constitution." We now, however, know, in contradiction of the principle so laid down, that in a great majority of cases, the venereal disease, left to itself, or without any assistance from specific remedies, has a tendency to wear itself out; that not only single attacks of secondary symptoms, to which Mr. Abernethy more particularly refers, will subside without the use of medicines, but that the natural course of the whole disease, is, in most cases, towards a spontaneous cure. This important pathological principle, to which I shall afterwards have occasion more fully to advert, has been established by the scientific inquiries of the army surgeons of this country, among whom the principal credit is due to the late Mr. Rose.

The next step in the progress of our knowledge respecting this disease was made by Dr. Adams, who, although adhering to Mr. Hunter's error, that the curableness of the disease by mercury is a test of siphilis, was led to discriminate one important variety of venereal disease, and to separate it from that with which Hunter was familiar. Dr. Adams was the first to separate phagedæna from chancre, while at the same time he advanced the opinion that the two proceed from different morbid poisons. Thus, after describing a well-marked case of the former disease, he observes, "that the case related was the effect of a morbid poison introduced from the broken skin at the lower part of the prepuce, can hardly be doubted; and that it was not venereal is to me equally certain. Is it consistent (he says) with what we know of the latter, that an ulcer should increase while mercury is showing its effects on the constitution?" In a practical point of view it is comparatively of little consequence whether phagedæna proceed from a different virus to that which produces siphilis: if the decision of this question is finally given against Dr. Adams, it will in no degree diminish the value of his judicious separation of the two diseases.

Dr. Adams thus recognized in primary sores two kinds, dependent upon two different poisons; the one curable, the other incurable, if not aggravated, by mercury.

We are indebted to Dr. Carmichael for the next step in originality and usefulness towards a fuller knowledge of siphilis. Dr. Carmichael not merely has extended by his observations our acquaintance with the subject of venereal phagedæna, but he established our knowledge, by accurately describing them, of certain other local affections, some of them giving rise, in his experience, to definite and peculiar constitutional affections, from which he inferred that besides the disease recognized by Hunter, and the phagedæna brought into observation by Dr. Adams, there is a separate and third disease, resulting from a third morbid poison, having its own laws and character, and requiring appropriate treatment. I confess, however, that my own observations have not borne out the views entertained by Dr. Carmichael; while I admit that we have no work on siphilis which displays more exactness in the delineation of the disease, or has done more towards leading others to distinguish and recognize its various features, than the treatise of Dr. Carmichael, which unfolds those views. Recognizing the fidelity of the descriptions given by Dr. Carmichael of different primary sores, and of consecutive general affections, I have not found the two as regularly associated the one with the other as he represents; and I am disposed to view the conjunctions, which he considers as instances of the laws of these diseases, as accidental only.

Are we, then, to begin with the assumption that there exist, if not three,

at least two venereal poisons? I think it safer to adhere to the opposite, which I believe is the general opinion, and to attribute those numerous diversities which are met with to temporary or permanent peculiarities in the habits of the individuals affected. My full reasons for preferring this opinion, the holding which is not of course inconsistent with allowing the existence of every variety of character and feature, and with attaching the utmost importance to the study of those differences, will be found in the course of the account of the disease, which I propose to give: it may be as well, however, now to introduce one or two cases in support of this view, which show that to some extent at least it certainly holds good. The first case is one by Dr. Fergusson, in a paper in the Medico-Chirurgical Transactions, which I have already quoted.

An officer, four days after having connection with an opera-dancer at Lisbon, applied to Dr. Fergusson, with the whole penis enormously swelled, of a deep red colour: there were chancres on different parts of the prepuce, and two on the glans penis, "the appearance of which could be compared to nothing but the holes made in a piece of mahogany or log-wood." He was a young man, robust and plethoric. The skin was hot, the pulse sharp and quick, tongue white, eyes suffused. Being copiously blooded, and cold acetous lotions having been applied to the part, and free purging obtained with neutral salts, the tumefaction subsided, and the sores became healthy. The person who communicated the infection continued on the stage for many months afterwards, apparently in perfect health, but occasionally infecting others, yet without any thing extraordinary that was learned in the nature of the symptoms.

The other instance is from Mr. Rose, who observes, "I recollect many years ago a healthy young man, who was affected with a decidedly sloughing sore in the penis, in consequence of a suspicious connexion. He twice afterwards, at a very considerable interval, had a fresh infection, and the sores each time had the same character as the first."

I now proceed to describe the primary symptoms of siphilis and their treatment, assuming that they result from the application of virulent matter secreted from a sore upon an infected person, to a vascular surface, by which the virus is imbibed or absorbed.

It is, indeed, a question, whether siphilis may not be introduced by contagion into the system, without any primary symptom or local sore, or sensible breach of surface. Every surgeon must have met with cases where decided symptoms of secondary siphilis existed; yet, in which the patients, where there has been no motive for concealment, have retained no recollection of any antecedent local affection. In some cases, again, the patient remembers having had a suppurating gland in the groin, but denies having had any discharge or ulcer on the genitals. Such statements it is, perhaps, impossible not to view without suspicion of their accuracy, and that without imputing to the patient any intention to deceive. A gentleman consulted me for a large burrowing ulcer on one side the glans penis; there was some swelling and redness round it, but it was not painful. I found that he had a smaller circular ulcer, a third of an inch in diameter, on the other side, of the existence of which he had not an idea. This, I have no doubt, had been in existence ten days or more, and it might have healed under treatment given for the other, without the patient knowing that he had this ulcer. So I conclude that it happens occasionally that a patient entirely overlooks the existence of the primary sore, which heals without the use of remedies. And this may be, and most probably is, the true explanation of all cases of secondary siphilis, supposed not to have been preceded by a primary sore. Nevertheless, it is not impossible that the venereal virus lodged upon a surface may make its way into the system without causing a local ulcer at the point where it has found entrance. The process by which poisons are introduced into the system is probably twofold; one effected by the circulation, the other by the lymphatics. In a wound into which the stronger vegetable poisons are inserted, or when the same are injected into the intestine of an animal, it is experimentally certain that the poison permeates the adjacent porous textures, as it would, being in liquid solution, penetrate a sponge; that, among the other textures, it penetrates the coats of the blood-vessels, upon which it reaches the blood, and

becomes mixed with it, and poisoning takes place. But in the introduction of the morbid poison of siphilis, the mechanism of absorption appears to be different. The liquid containing the virus being applied to a vascular surface, or one protected by a cuticle so thin as to offer no sufficient impediment, permeates or is imbibed by the vascular surface, and is incorporated in it. In the common course of events, the presence of the virus in the cells of the tissue irritates it, and inflammation and an ulcer ensue, that ulcer forming matter of the same virulent kind that infected the part, and the absorption of the infected portion of skin carrying the taint into the habit. But supposing this to be a just account and theory of the ordinary process of venereal absorption, it is not inconsistent with what is known of the occasional impassiveness of the system, to suppose that the imbibed virus may sometimes not irritate, but growth go on as usual, deposition and absorption balancing each other as in the healthiest condition of the part, and the virus making its way into the system silently and unobserved.

Again, it may be considered as certain that the venereal disease may be conveyed into the system through any common abrasion of the surface, or rather, that constitutional lues may occur, where nothing has gone before but a sore lasting a few days, and looking like a common excoriation. A gentleman consulted me for what appeared a common excoriation on the reflected portion of the prepuce, near the corona glandis. I advised him to apply a shred of lint dipped in a lotion of calomel and lime-water, to heal it. It closed in two or three days, and he went into the country, where he took active exercise, it being the hunting season. In six weeks he returned to town to shew me a trifling swelling in the groin; it was an inguinal gland, barely enlarged, and obscurely tender on touch. This symptom disappeared in a day or two; but I observed that the skin of his abdomen and loins was mottled, and I learned that he had rheumatic pains in his back and shoulders; then siphilitic psoriasis appeared on the head and palms of the hands, with the same affection of the throat, and his hair began to come off. The complaint was extremely mild, and he has recovered without the use of mercury; but it certainly was siphilitic, and he had had no primary sore, except occasional excoriations like that which I saw.

These circumstances considered, it will best serve to convey a complete practical knowledge of siphilitic disease to introduce under the same head an account of all the local affections of the genitals which are known or suspected to have been connected with the introduction of pus into the habit. They may be divided into such as are very rarely, and, as it may be conjectured, accidentally, followed by lues; secondly, those for which, while they present the greatest dissimilarity to the disease as described by Hunter, mercury is certainly not a specific — namely, the two kinds of phagedæna; thirdly, those forms of disease which are nearly allied to, and include that described by Hunter, and in which, in general, mercury may be advantageously given.

I. The first class of affections comprises excoriations, herpes, and warts.

Excoriations arise from the cuticle splitting and being abraded. Their common seat is the præputium, a quarter to half an inch from the glans; but sometimes the frænum, or the adjacent surface, is excoriated. There is seldom more than one point excoriated at a time. The excoriation at first bleeds, after which for a few hours it looks like what it is—a raw surface; then it becomes covered with a thin film of grey lymph; by the third day it is generally healed, the cuticle having been replaced. Excoriations are sometimes several days in healing, the lymph becoming organized, and changing into granulations. In shape they are commonly oblong, with an irregular edge, the surface and edge being soft and sore.

To promote the healing of an excoriation, the part should be washed with soap and water, and a shred of lint, dipped in cold water, afterwards applied twice a day. There is no objection to dipping the shred of lint into the liquor. plumbi subacet. dilut., or into a wash of calomel and lime-water.

Herpes præputialis is a vesicular complaint of the foreskin, a small, circular, or oval patch of which becomes red and swelled, and itches. After a few hours it is covered with a crop of vesicles, as big as pins' heads, or something bigger; if these are on the external surface, they break and dry up in two or three days;

if they are on the inner and moist surface, they generally form as many shallow ulcers, which, if the part is kept clean, and a shred of lint applied, heal in two or three days more. Sometimes a crop of vesicular sores of the same nature forms around the corona glandis. Occasionally a red patch is seen on the glans penis, upon which two or three vesicles form, break, and dry up. Washing, and the shred of lint, as for excoriations, are all that is required. Without these means the vesicles, or little ulcers, dry and heal a day or two later. Some persons are more liable to herpes than others. Whatever irritates the urethra tends to produce it; so the removal of a stricture has been found to lessen the tendency to this complaint. Washing with salt and water, or with a weak solution of corrosive sublimate, I have known of use, where the disposition has been troublesome. It is needless to say, that all that tends to heat the system increases the disposition where it exists.

Occasionally, when the foreskin is long, the aperture is liable to thicken and chap, or become fissured. Frequent washing, the application of simple cerate to prevent the urine irritating, and of a lotion of mercury and lime water, with the avoidance of what may heat the part or the system, will quickly cure the complaint.

Warts are formed of the papillæ of the skin produced in fine villi covered with thickened epidermis; they are therefore vascular and sensible; their texture is harder or softer, and their colour grey or red, according to the quantity and density of the cuticular part. Their surface is spongy; they grow either as a continuous bed from some extent of the skin, or in clusters of separate warts, in contact or detached. Generally they are broader than high, and have a broad base; sometimes they are elongated or pedunculated. They generally follow gonorrhœa, and seem to arise from the irritation of the skin by the gonorrhœal matter.

Warts most frequently grow on the preputium near the corona glandis; sometimes on the glans; sometimes on the outer surface of the prepuce; sometimes on the perineum. In women, the external labia and the perineum are their usual place.

Warts covering a considerable extent of surface, and not elevated, forming a broad but shallow growth, will usually disappear under the application of mercurial ointment. If this remedy is insufficient, the next to be mentioned are to be used.

Ordinary clusters of warts, thick and broad, should be washed with acetic acid, or touched with nitrate of silver; or, if refractory, they may be cut away, or destroyed at once with strong nitric acid, or the chloride of zinc paste.

Warts that are long should be cut off with scissors, and nitrate of silver applied to the wounds.

Besides the preceding definite breaches or alterations of the surface of the genital organs, there fall under the same head the consequences (in these or on any casual fret or lesion of the skin) produced by over excitement of the parts, irregular living, and neglect of cleanliness; such as extensive superficial ulcerations of the glans and lining of the prepuce—elevated fungous patches secreting pus—and other inflammatory accidents, which may at the same time mask siphilitic infection.

[To be continued.]

FŒTAL MALFORMATIONS.

To the Editor of the Medical Gazette.

Sir,

Mrs. —— was delivered, during the eighth month of pregnancy, of a living child, by the breech. The child died on the eighth day, from the effect of the following deformities:—

On the lower part of the abdomen, extending from half an inch above the navel to the coccyx, was a rounded, uneven, irregular, injected surface, consisting of thin integument, largely developed labia majora, and internally lined by peritoneum. Through this surface, about an inch below the navel, had prolapsed nearly four inches of intestine; and immediately below this prolapsus was a hole, into which a probe passed for about an inch and a half. Between this hole and the anus, which was imperforate, were two slight folds of mucous membrane, connected at the mesial line, resembling the nymphæ.

On opening the abdomen, the symphisis pubis was found to be widely separated, and there was no distinction between the abdominal and pelvic cavi-

ties. The prolapsed portion of gut, already described, consisted of the entire cœcum, appendix vermiformis, and three inches of small intestine. The hole beneath this led into an imperforate rectum, nearly two inches long, which terminated just within the situation of the anus.

On each side of the rectum was situated a tense and somewhat pyriform body, about the size of a small walnut. When cut into, there escaped from these bodies a thick, coherent, albuminous fluid, retaining the shape of the cavities in which it had been confined. Each of these was evidently an enlarged vagina, having the transverse rugæ of that canal, with an os tincæ at its internal extremity leading into a small uterine cavity. The fundus of such uterus was pointed, and terminated in a fallopian tube with a single ovary. Externally the vaginæ were imperforate, and ended on either side of the union of the nymphæ before alluded to, being covered only by thin integument.

The kidneys were of unusual size; the ureters were large, and ended in the fleshy mass of which the labia majora consisted. Through these it is probable that the urine escaped during life. There was no urinary bladder.

The subject of the following abnormal structure was born alive, but very shortly afterwards died.

The abdomen was greatly enlarged, the pelvis spread open, and the whole lower extremities very much wasted. Almost the entire abdominal cavity was occupied by a very enlarged and distended cœcum, which thrust upwards the small intestines, and separated the symphisis pubis to a distance of nearly two inches. This cœcum contained several ounces of fluid.

The ileum terminated in the substance of the cœcum, but without communicating with its cavity; a few inches of the end of the ileum being very distended with meconium, none of which entered the cœcum, the fluid within which was perfectly clear and transparent. There were two openings communicating with the cavity of the cœcum, one of which led into a very enlarged and hypertrophied appendix vermiformis, the other, at its opposite extremity, into about six inches of large intestine, the cavity and coats of which were of the normal size and thickness. This gut terminated in the anus, which was imperforate. Both the appendix and the terminal intestine were filled with the same fluid as that contained in the cœcum.

The other viscera were not examined.

I am, sir,
Your obedient servant,
Joseph Stace, Surgeon.

Southampton, Sept. 30, 1839.

OBSERVATIONS ON THORACIC TUMORS.

By J. B., M.D.

[Continued from p. 51.]

[*For the London Medical Gazette.*]

In continuation of the subject of intra-thoracic tumors, I purpose in this communication to lay before the profession the history of a few cases of this truly-interesting pathological condition of the pulmonary viscera; at the same time it must be lamented by all that our diagnosis avails but little, and is only of importance in a scientific point of view.

That the thoracic organs, and especially the lung, are much more frequently the seat of malignant disease than is generally admitted, I am fully convinced; and am inclined to believe that they are often overlooked in consequence of this too-prevailing idea of their rarity: for it would be absurd to suppose that locality can have any influence on their production, and have a greater opportunity afforded to some individuals for their inspection than to others. We again repeat, that we do not presume to draw a diagnosis between cancerous tumors and other morbic growths, or even aneurism; this would indeed be asserting for auscultation a claim which, *as yet*, it does not quite possess. That there are some cases of intra-thoracic tumor the nature of which can be detected before death, is certain, but, comparatively speaking, they are exceedingly rare; and we are very frequently obliged to content ourselves with the mere physical diagnosis of "a tumor," without presuming to pronounce an opinion as to its nature.

In that incomparable work on the "Diseases of the Chest," by Dr. W. Stokes, we have for the first time a description of cancer of the lung introduced to our notice with any thing like the prospect of being able to make a diagnosis approaching to accuracy; and in the cases narrated by this second

Laennec we at once see the extreme difficulty that there was in forming a conclusion as to the nature of the cases in question.

As Dr. Stokes properly observes, cancerous disease of the lung is met with in two forms: in the first a degeneration of the lung occurs, and the organ is transformed into a cancerous mass without the production of any tumor; in the second, the schirrous or encephaloid matter forms a tumor, at first external to, and ultimately displacing, the lung. Now, as he observes, the first is of much more uncertain diagnosis than the latter, because here we can only have the signs of solidity, whilst in the last we have displacement of parts to aid us. But since the publication of these cases, it must be admitted that our means of diagnosis has been considerably improved. There is, however, a fact connected with the first of these divisions adopted by Dr. Stokes, which, I think, merits observation, and has not, as I am aware, attracted sufficient attention, viz. the occurrence of "interrupted cancerous deposition" in the substance of the lung; two cases of which I have seen uncomplicated with any other affection, and one in which there existed miliary tubercles. The physical phenomena resulting from such a condition of the lung is very inadequate to afford any grounds for diagnosis, but, as will be seen hereafter, may sometimes become available and very important.

The assistance received from collateral circumstances in cases of cancer of the lung become of immense value when any doubt or great difficulty exists as to the nature of the case, and in the absence of positive evidence we must by these negative means assume our position. In Dr. Stokes's first case this point is fully exemplified; and but for the fact of his not having observed the disease before, he would have at once come to the conclusion of the disease being cancerous, or better, that the disease of the lung was identical with that observed on the body. Again, in cases where we are cognizant of the fact of cancer having affected the testicle, for instance, and extirpation of the parts has been performed with the hope of removing the disease; if in such a person, for example, the side sounded dull on percussion, yet without the accompanying physical signs of a great empyema on the one hand, or of pneumonia or tubercular solidity on the other; add to these, displacement of the veins, perhaps disphagia and sense of suffocation in some cases complained of—we may, I say, in such a case, with tolerable certainty, pronounce the disease to be cancer of the lung. Unfortunately, however, for diagnosis, such a rare combination of fortunate signs is but seldom so nearly grouped for us, and cases do occur in which the more prominent of the physical signs enumerated are altogether absent. The patient may never have disphagia, or difficulty experienced in swallowing solids or fluids, referring the obstruction to a point corresponding to the lower part of the trachea; he may never have dyspnœa, and no affection of voice. And, on the other hand, as if to offer an additional difficulty, the cancerous deposit may be in such a condition as to afford no field for physical diagnosis, as occurs in "interrupted cancerous deposit." In this case, what is the condition of the lung? We find the organ studded over, in a pretty uniform manner, with numerous small masses of a yellowish-white substance, some as large as a shilling, others smaller and of a firm consistence, the inter-spaces being perfectly pervious, and to all appearance perfectly healthy. Now to what physical phenomena would such a condition give rise? The answer is simple—to none! whilst these masses retain their consistence, and the healthy portions remain pervious to air. The extent of consolidation is not sufficient perceptibly to diminish the sound on percussion, and the character of respiration is not discordant to the most practised ear. But even admitting that one or more of these masses were so far softened down, and permitting the entrance of the air caused a distinct gurgling; or in other words, suppose we detected a localized bronchitis, would we be justified in arriving at the conclusion that the disease was cancerous? In the absence of other signs or symptoms, certainly not; and it is in such cases more especially that the stethoscopist is foiled. All we can do is, to announce the simple fact that "there is a cavity." If, however, we are accurate in our observations of the case, collect our information both from the patient himself, and from the painful, though too often fatal murmurs (if I may use the expression) of the disease itself, we may frequently be enabled

to say what the disease is not, if we cannot pronounce its character, which, in the absence of certain and accurate diagnosis, is better than actual error.

Case.—A young man of ordinary make, about 5 feet 8 inches in height, applied for medical aid under the following circumstances:—

He had always enjoyed very good health, until within the last year, when his health began to decline, and he lost his appetite; he was seized with an irritating cough, unaccompanied by any expectoration, and which became aggravated on the slightest attack of cold; he never has been so very ill as to compel him to keep his bed for any length of time; at present he is rather reduced, and is not capable of undergoing great exertion; complaining of pain or a sense of tightness in his chest; cough with mucous expectoration, and his respiration rather hurried; evidently has taken a cold; pulse 100, not very feeble; bowels moved once this morning. On physical examination, the chest sounded every where clear on percussion; no flattening of the clavicular regions; on applying the stethoscope under these latter regions the respiration is exceedingly puerile, much more, however, in the right lung than in the left; and at the nipple well-defined and distinct mucous rale is audible; this sign is heard over a very small space, and beyond it the lung seems every where pervious, but the respiration exceeedingly loud and quick; in the left lung, and at the postero-inferior portion of that organ, a well-defined gurgling rale is audible, and higher up and nearer the spine bronchitic rales are heard almost as fine as the crepitus of pneumonia; the glands under the axilla are enlarged as well as the inguinal glands.

He was ordered to be cupped posteriorly, and a large blister applied to the chest; and Dover's powder at bed time, with Vin. Ipecac. Syrup. Simpl. et Træ. Hyoscyam.

Now what was the nature of the disease with which we had to grapple? Let us examine the symptoms or signs as they presented themselves. Here is an individual labouring under a disease of his lungs evidently, and which partakes very much of an acute attack of some kind; on percussion there is decided clearness; no flattening of the chest; no night sweats; cough, with mucous expectoration. The lungs seem generally pervious to air, but we detect in various situations well-marked gurgling. Certainly, so far as these signs go, they afford, indeed, but very unsatisfactory and negative information; that it is just possible for the disease to be tubercular, may, perhaps, be granted to those who would incline to such an opinion, but I confess I cannot call to mind any case of incipient phthisis (which, to be phthisis, this case must have been incipient), in which such a peculiar combination of physical signs exists, and on the other hand, the group of symptoms are equally opposed to such an opinion. In such perfect obscurity, indeed, would this diagnosis be involved, were it not for the philosophical observations of Dr. Stokes, that to arrive at anything like a true one would indeed be a matter of difficulty; but I do not think that it amounts to mere assumption, when we assert that, in a person presenting such a group of physical phenomena, in all probability the disease was not phthisis nor the result of pneumonic inflammation. To say what it is involves a difficulty; nor have I the opportunity of ascertaining. Was it one of the cases of interrupted cancer?

With regard to the second class, or that condition of the lung in which the cancerous matter occupies a portion greater or less of the lung, we are not unfrequently involved in very great difficulty, and are utterly unable to come to a satisfactory conclusion, and, as has been remarked, we are or can be only guided by the signs of solidity, and must rely for assistance on the other collateral circumstances of the case. But the case is very different when the whole of one lung becomes involved, as was first described at one of the earlier meetings of the Pathological Society of Dublin, by Mr. Stokes. In his case, and I believe the only one on record, the whole lung was most perfectly and completely disorganized, and connected into a vast mass of cancerous matter, the bag or sac of which was formed by the thickened and now dense pleura. The phenomena resulting from such a state of parts being perfectly novel, necessarily rendered the case very obscure, and all that Dr. S. did here was to say, "it is a disease which I never saw before, and is perfectly new to me." The post-mortem appearances, however, completely bore out the physical signs, and should such a case ever occur again

there would be no difficulty in pronouncing an opinion as to its real nature. To avoid a lengthened account we shall be very brief in our narration of them, and without attempting to give the history of the case, which will be found in one of the late Nos. of the Dublin Journal of Medical Science. When the poor woman was admitted, the whole of the right side of the chest sounded dull on percussion, and distinct gurgling was heard in many portions of that side: this state continued for a day or two, and was succeeded by copious expectoration of puriform matter, and immediately the physical signs were tympanitic clearness of the whole side, and this alternation of signs occurred several times during the progress of the disease. Such cases are, however, of very rare occurrence, but in the event of their so appearing, I imagine the diagnosis to be easy, compared with the other forms of cancerous degeneration.

We now come to a much more important part of our subject, viz. the occurrence of cancer of the lung simulating aneurism. This might at first sight, and certainly with great plausibility, appear, to those unacquainted with the intricacy of the subject, an impossibility, but that such is nevertheless the fact is well known to any one in the least acquainted with physical diagnosis; and this is not only true as regards these tumors within the chest, but elsewhere; as, for instance, in cancerous masses circumscribing a large vessel, a case of which we will briefly mention by and by.

In these cases the condition of the contents of the cyst may be of such a nature as to receive faithfully the pulsations of the vessel passing through it, so that we shall have the diastolic pulse exactly presented; but there are also other cases again in which we have these pulsations more defined and following the course of the vessel.

It is in these cases more especially that the greatest obstacles to correct diagnosis exist; here the simulation of aneurism is so close, that especially as to the physical signs, the collateral evidence of any such aneurism being present must be exceedingly strong to warrant a conclusion of the nature of the case. Of these cases, however, we purpose speaking in a future communication.

[To be continued.]

PECULIARITY IN THE TRANSMISSION OF HYDROPHOBIA.

To the Editor of the Medical Gazette.

Sir,

On the 20th of May last, two ewe sheep were bitten by a dog labouring under hydrophobia. One of them had two lambs at her side, which were allowed to continue with her for a fortnight after the bites were received. She was bitten and torn considerably about the head. The other also had one lamb (a ram) with her. She received one bite only, in the neck; it was, however, a very severe one. The lamb was allowed to remain with her the same time as the others. About six weeks after the bites had been received, the first named ewe evinced the following symptoms:—she was observed often pawing and striking the other sheep, like a ram—a very uncommon circumstance in a ewe; she was convulsed at intervals—she continually turned her head to her side in a convulsive manner; the bowels were very much constipated, and what little came from her was of a red colour; she refused all food. These symptoms continued, increasing in violence, for about eight days, when all hope of her recovery being abandoned, she was destroyed. A day or two afterwards, the other ewe became affected in the same manner, and the whole circumstances of the case were precisely similar to those of the former. She was killed on the seventh day. Nine or ten days after the death of the last sheep, the ram lamb was attacked in the same manner as its mother; it was, however, much more violent, butting at the other sheep, and at the hurdles, and at any thing else that came in its way; it was continually tearing the wool from its side. It expressed no uneasiness at the sight of water in a ditch, part of which was inclosed along with it by some hurdles. It was killed a week after the first appearance of the symptoms. The other lambs were attacked at the same time, and in a similar manner, as the ram, but were not so violent. They were, however, killed together, as their cases appeared equally hopeless.

The great singularity which is observable in the cases is, that *the lambs became rabid merely from sucking ewes*

which had been bitten by a mad dog, for the lambs were removed from them a month before the ewes became affected. The lambs were all carefully examined, in order to discover any bite they might have received, but not the slightest scar could be discovered. The same dog bit a number of other sheep in the neighbourhood, the greater number of which died of hydrophobia. He bit a man, also, in the hand, but excision was performed, and he has hitherto done well.

No attempt was made to relieve either the ewes or the lambs.—I am, sir,

Your obedient servant,

S. H. Steele.

40, Bloomsbury Square,
Oct. 21, 1839.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'Alembert.

The Vegetable Cultivator: containing a plain and accurate description of all the different species and varieties of culinary vegetables; with the most approved method of cultivating them by natural and artificial means, and the best modes of cooking them, &c. By John Rogers, Author of "The Fruit Cultivator." London, 1839. Small 8vo. pp. 343.

This neat and compact volume contains instructions as to the best method of cultivating sixty-eight vegetables, which are alphabetically arranged from artichoke to winter cress; and twenty-five physical herbs marshalled in the same manner, from angelica to wormwood.

If ever a man was qualified to teach, by length of experience, that man is our author. Even the most grey-headed reviewer of our fraternity, who may have driven the censorial quill for some half century or so, would shrink from disputing with a gardener who knew Philip Miller, and who has cultivated cucumbers for seventy years. His critical infallibility would desert him! Most curious it must be for a nonagenarian to look back over so vast a gulph of time, and passing over the comparatively modern period (a mere yesterday to him) when vegetable marrow and Wellington boots were struggling into existence, to go back through a series of happy decads to the days of short indispensables and Junius's Letters! When ladies wore sacques and hoops and powder; when gentlemen pinked one another with swords, and took off their hats in the streets; when ceremony was polite, and three o'clock dinners fashionable, then did John Rogers gain prizes for melons, and soar high above contemporary pea-forcers!

Nor has time abated the edge of his zeal, nor diminished his love for gardens, frames, and hot-beds.

"Agnoscit veteris vestigia flammæ."

"The staunch old gardener still remains the same,
His frame yet knows the vivifying flame."
Anon.

Our author is naturally sometimes a praiser of the days of old; the marrowfats of the *bon vieux temps* still dwell in the greenest spot of his memory, and melons long since departed, melons that won prizes A. D. 1780, still spread their fragrance over his pages* !

Yet we would not have our readers suppose that the author lives only in the past, or imagines vegetable excellence to have been stereotyped in the eighteenth century. Quite the reverse; he is well aware that the science of the kitchen-garden, like all others, is progressive; and he tells of early Warwick peas, of early racehorse peas, of Flanders spinach, and of Normandy cress, as well as of the old-established favourites. There is a freshness about his subject which comes home to the bosom of every uncorrupted reader, and the author treats it in a congenial spirit. In good truth, his very age is a proof of no inconsiderable merit; the peevish, the intemperate, the ill-conducted, do not live to ninety†. He gives, too, many receipts for dressing vegetables. For example:

* We are not quite sure that the author is right when he says, "In France, and some other parts of Europe, the melon is frequently served up at dinner as a sauce for boiled meat," (p. 160.) In France it is a common *entremet*, or intervening dish, during dinner, but we do not recollect it as a sauce. In an amusing French work, "Les Français: Mœurs Contemporaines," a duchess is described labouring under *anglomanie*, who can eat only *gibelotte-soup* or bread sauce; her husband can get melon at the dessert alone; and to have peace in the house, he is obliged to eat it with rhubarb.

† Like a true gardener, John Rogers is of wholesome tastes, and thinks of beauty with the orthodoxy of an artist or a physician. There is, as every one knows, a fellowship or analogy in preferences; and as perverted relish calls perverted relish brother, so good taste of one kind is a pledge for the presence of another. Your marrowless town rake, withered in heart and frame, likes a pale, and pasty, and almost anasarcous complexion; thinks the glow of health disagreeably rustic, and extols the sickly graces

"The second dish, which was a favourite and fashionable one some fifty years ago, is made of the sugar pea, when young, dressed with the pods, requiring only the outside edges to be stripped off. These are to be put into a stew-pan with some good gravy, thickened with flour and butter, with a little mace, ginger, and nutmeg, and allowed to stew gently until the pods are quite tender, as they are unlike any other sort of pea, not having a tough coating inside the pod. The sugar pea, dressed after this manner, forms a most delicate side dish at the table." (p. 224.)

In the next edition of the book, for next edition there must and will be, we could wish to see the French methods of dressing vegetables introduced; the *petits pois au sucre*, and *pommes de terre à la mâitre d'hotel*, for example, should by no means be pretermitted. Like frank Meg Dods, whose Cookery book is doubtless in the hands of all our readers, we allow, to "save trouble," as she says, that the French are the best cooks in the world; and the sooner this truth is universally admitted, the better. We strongly recommend Mr. Rogers' Vegetable Cultivator to every one who has a garden. The book makes one long to have half an acre, or so, of one's own, Kewward, or, not to travel so far, down there by Chiswick: *colat hortum ter vel quater in septimanâ* would not be a bad prescription for many a hypochondriac; he might eat the stalks of his rhubarb, instead of the root.

Plantæ Utiliores. Illustration of Useful Plants, employed in the Arts, Medicine, &c. By Miss M. A. Burnett, Sister of the late Gilbert Thomas Burnett, Professor of Botany at King's College, London. No. 1, London 1839. 4to. pp. 6. Two coloured plates.

The following extract from the prospectus will show the object of this work:—

"The letter-press will consist, as occasion may require, of extracts from the most popular authors, introducing portions of the unpublished MSS. of the late G. T. Burnett, with the scientific and English names of the plants. The Linnean Class and Order will be given, but the descriptions will be founded on the natural arrangement. The object of the present publication will be, to give accurate and faithfully coloured figures of plants, particularly selecting those used in the arts, medicine, and for ornament, or which are interesting either for their beauty or associations."

The present No. contains two beautifully coloured plates representing the tobacco plant (Nicotiana Tabacum,) and the blue passion flower (Passiflora cærulea.) This work has evidently been a labour of love with Miss Burnett, who is not only a most skilful artist, but is by profession a colourer of drawings and maps; and has consequently been able to lavish more finished beauty upon her designs than could be expected in a work of treble the price. The remarkably small sum for which it is sold will bring it into the drawing-rooms of hundreds whose fortunes are not equal to their taste; and the man of letters will be gratified by the extracts with which the plants are illustrated. The account of tobacco is particularly entertaining, and includes a part of the declamation of James, the author-king, against the use of this too fascinating weed; the passion-flower is commented on in a passage from Hervey, the celebrated author of the Meditations.

We cannot doubt that this work will meet with a large sale: he carries off every vote, says Horace, who mingles the useful with the sweet; and this is Miss Burnett's case.

MEDICAL GAZETTE.

Friday, October 25, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
Cicero.

THE NEW POOR LAW.

Some time has now elapsed since we discussed this painful subject; but it is of such great and growing importance, of such paramount interest to every lover of the commonwealth, whether a

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* of Lurida. John Rogers prefers, as we do, the cheek of Callipareia made up of damask roses and sunny sides of peaches, with the flashing glance, that might befit a Houri just descended from Paradise, the black-eyed reward of some true believer—or, as he expresses it, "a fine bloom on the cucumber will be essential, this ornament being always admired both in the animal and vegetable kingdom." (p. 99.)

mere citizen or a practitioner of physic, that we should be censurable if we continued to pass it over.

A hope of better times begins to dawn; for it is now seen by all the more discreet partizans of the new law—by all, in short, who do not add utter blindness to perfect selfishness, that one of the most grinding provisions of the Act must be given up; it is acknowledged that, during seasons of distress, it is impossible to refuse out-door assistance to the hungry and the naked.

A benevolent clergyman (the Rev. Mr. Bull) advised his starving parishioners to take the assistance so sneeringly proffered them, and enter the lurid asylum of the Union Workhouse; and had his advice been followed, the House of Correction for poverty must soon have been filled, and consequently out-door relief must have been given, even according to the principles of the framers of the Act. But whenever a hard season arrives—whenever employment is scanty or ill paid, with the 4 lb. loaf at elevenpence, the poor houses will be crowded; the irresistible instinct of nature driving multitudes to submit to the slow process of starvation within those sanctuaries, rather than undergo the acuter form of atrophy without.

We wish, however, that this remedial step had been immediately taken, at the suggestion of Mr. Bull; and that we had been sooner blessed with the virtual repeal of one of the worst clauses of the Act.

The promoters of the new measure hoped, of course, that no one would be found to give the poor assistance by word or deed. In one of the Commissioners' annual reports, a Malthusian of Bath complains bitterly of certain charitable ladies, whose alms prevent an aged pauper from entering the Bathonian *ergastulum*; and as for a philanthropist teaching the indigent how to fill the workhouses, and thus obtain out-door relief for the overflowing majority, this is indubitably flat rebellion against their majesties of Somerset House, and should be punished under some nice sweeping clause as an obstruction of the Act.

The medicines for the poor, they might add, are to be found in the cellars and the kitchens of the rich; and the great proprietor or opulent farmer can rarely be so unmindful of what he owes as to leave the cultivator of his fields to apply to the community for relief. For, if the instinct of equity is not entirely extinguished in his bosom, he must be aware that the pittance which he gives his labourers under the name of wages is far from a true adjustment of the account between them. The smallest possible sum which competition forces the ploughman to accept is not the just reward of his toils; nor, if we add to his weekly stipend the sums expended for him when sick and decrepit, will the total amount to any adequate recompense. Or if this picture of good-humoured justice be supposed to be too highly coloured, and more like the anticipation of some happier age than any thing possible in the present one, it will at least be allowed that similar duties devolve on the community at large. If we cannot expect each landholder to consider those who gather in his harvests, and swell his rent-roll, as the poorer members of his family, at least we should hope that when the care of the indigent husbandman is transferred to the community, he would be treated not as a criminal, but a benefactor. Every individual in the army and navy, every public functionary, whether high or low in rank, has a right to a pension after a fixed length of service. Their pay, generally speaking, is not large, and it is justly thought that the pension and the pay combined are not more than a fit reward for their

labours. It is thought better to grant a pension, than to give higher pay, and trust to the chance of the receiver's saving a part. Now to the half-fed husbandman standing at the bottom of the social scale, and exposed to competition in its most intense form, competition sharpened by hunger at his very door, this mode of dealing is peculiarly applicable. The daily labour of twelve hours rewarded by the coarsest clothes, the cheapest lodging, and insufficient meals of bread and potatoes, may surely claim an annuity in old age, without wounding the most sensitive Malthusian in Belgrave Square.

But if those whom destiny has placed at the top of the social scale, cry out to those at the bottom that they are to bring up their families on eight shillings a week, and save something for a rainy day, out of the superfluity; or if they add one gross unnatural insult to another, and tell the poor to wear away their lives in celibacy, we frankly confess that the optimist representations of our moralists will have lost their force and the truth. It is plain, in this matter of the forced celibacy of the poor, that there is a glaring bit of silliness at the bottom of the utilitarian selfishness—an illustration of Coleridge's remark, that "a rogue is a round-about fool, a fool in circumbendibus."

For if only a few hundreds or thousands of our husbandmen followed the profligate advice given them, and abstained from marriage, there would be merely a few additional hundreds or thousands of licentious bachelors and spinsters; but if the poor generally followed this destructive counsel, so as to gratify their advisers by a visible falling off in the population, the rich would be losers. The most callous economist with universal anæsthesia, save in his pocket, would find that wages would rise, that lands would be untilled, and he would learn, too late, that the industr ious and ill-used labourer carried five sheaves into his master's barn for one that he consumed himself. Give these frigid philosophers rope enough, and they would hang themselves; but the worst is, they would hang many honest people at the same time.

According to Dr. Bureaud-Riofrey, in the year 1558 our population was so dense that the poor were not allowed to marry before thirty*. We candidly confess that we never heard of this law before; and what with plagues, sweating sicknesses, and constant complaints of depopulation, it is the last statute we should have expected to hear of in the days of Mary or Elizabeth. Nevertheless, it may have been so; parliament may have been seized with a sudden horror of shabby weddings and portionless children; and this paroxysm of the fear of increase may have stood out amid the general tranquillity on the subject, like a rugged rock in an unruffled stream. If Dr. Bureaud-Riofrey is right, the Commissioners will rejoice; and while they praise the good old times, will be tempted to recommend a similar measure to the collective wisdom of the nation—perhaps substituting 40 for 30, in accordance with the progress of knowledge.

Another coincidence between that age and our own deserves to be noticed. When the abolition of the monasteries deprived the poor of their accustomed resources, hardly any attempt was made to provide a substitute. They cried for bread, and the law gave them a stone. Statutes of the most revolting severity were passed against beggars and vagabonds; but hunger will break through stone walls, and even the gallows could not quell it. Accordingly, that famous statute was passed in Elizabeth's reign for the relief of the poor, which in spite of all its defects, whether theoretical or

* Londres ancien et moderne, p. 90.

practical, has raised the condition of the labouring classes in England beyond that of any other country in Europe. The poor have now again been deprived of their stay—a second abolition of monasteries has taken place for them, and it is proposed to give them a rural police. But we predict that this will be insufficient to keep down the complaints of the famished; and some milder remedy must be sought. Either we must have a mitigation of the law, involving the abolition of all its harsher clauses, or emigration must be encouraged on the largest scale, and aided by the most liberal expenditure of the public funds.

We may remark, too, that, as in olden times, the crowd of the discontented did not consist merely of the starving poor, but included the most desperate criminals, who were glad to engraft their predatory habits on a popular cause, so now the burglar or the pickpocket will occasionally join the throng of complainants, and give himself the air of injured innocence. In some cases, no doubt, motives are mixed, and indignation at the oppressor is superadded to previous irregularities. The other day, a man named William Watts was convicted at the Norfolk Quarter Sessions of shooting cattle, and sentenced to transportation for life. He acknowledged the justice of the sentence, and said that the cruel poor laws, and the rates and taxes now imposed on the labourer, drove him to dishonesty. "He would not see his children starve, while he was called on to support full-fed relieving officers, and other folks connected with them and the unions."

We compared above the new act to a declaration of war; and, as in other wars, it will often happen that the subaltern workers of mischief venture on acts of which their commanders cannot publicly approve. The masters of workhouses, relieving officers, and other small fry, play very fantastic tricks. They know that they are to squeeze, pinch, economize most subtlely, shave most closely; and how to do all this, and yet preserve some regard for the decencies of life, puzzles them, as it naturally might. In translating the elegant insinuations of their masters into their own rude dialects, they fail, and sometimes get a rap on the knuckles.

At the Bungay petty sessions a young man was lately charged with robbing the Wangford Union of a suit of clothes, and going out of the poorhouse without leave. It appeared that the Union clothes had been given him in place of his own; but instead of being admitted into the workhouse, he and two others were taken to the criminal gaol, and put into a filthy cell in which were two men ill with the itch; "he thought that he had no right to be used in that infamous manner, and, seeing a means of escape, he got out, but not before he caught the disorder. On the next morning he sent his father with the Union clothes to the workhouse, but the master refused to take them, or give up his own. The magistrate asked the workhouse-keeper if this statement were true, and he answered that it was; he did not think he had done wrong by putting a pauper into gaol with people who had the itch. The bench, after expressing their disgust at the way in which the defendant had been treated, immediately dismissed the complaint*."

CLINICAL LECTURE,

Delivered at University College Hospital,

By Samuel Cooper,

Senior Surgeon.

General remarks.—Fracture extending into the knee joint. — Varicose veins.—Use of twisted sutures.—Case of phlebitis.

Gentlemen,—On the occasion of delivering my first clinical lecture this session, I should not be discharging my duty were I not to express to you my own conviction,

* Times of Oct. 14, from Suffolk Chronicle.

that every surgeon of a public hospital ought to deliver clinical instruction, so that students may derive, from the various interesting cases continually presenting themselves, a practical acquaintance with their profession. Were this praiseworthy custom neglected, the hospital fee would be paid merely for the privilege of walking into the wards, and then out of them again, without the purpose of attendance on hospital practice being fulfilled. Strictly speaking, *clinical* observations are those made at the bed-side of the patient, while the case is in the presence both of the surgeon and the students; and so far as this plan can be adopted, with due regard to delicacy and the feelings of the patient, it has advantages. Who can doubt that every remark offered by the surgeon, while the disease is actually in view, will not only be more likely to be correct, or to correspond to the real state of it, but also better calculated to make a more durable impression? The surgeon is obliged, as it were, to keep within the limits of accuracy, by the facts and evidence before other parties as well as himself. It is expedient, however, that, in many instances, the patient should not hear all that is said about him. It would frequently have a pernicious influence on the disease which he is labouring under, if we were to disturb his mind with remarks on the dangers to which he is exposed, or on the likelihood of his having no chance of recovery, except by means of a painful and hazardous operation. Neither is it always right, even with reference to the patient's own welfare, that he should be made exactly acquainted with the medicines which he is taking. For these and other reasons which might be specified, it is deemed proper that the particulars of certain cases should be explained and commented upon in this theatre.

Fracture of the thigh bone, extending into the knee-joint, followed by large abscesses, disease of the joint, and necessity for amputation.

When I had the pleasure of meeting you last Saturday, you heard many of the particulars of the case of Edward Lyon, whose limb was removed on that day for a fracture of the thigh-bone, extending between the condyles into the knee joint, and complicated with extensive abscesses in the limb, and urgent hectic symptoms. After having tried for five weeks to save the limb, I was sorry to perceive that the only chance of saving the man's life depended on amputation. But even the result of this was considered to be extremely doubtful, not only on account of the very enfeebled state of the patient, but because a considerable portion of the cyst of one abscess, at the inner part of the thigh, reaching nearly to the groin, would be left, and still be a source of a profuse discharge, unless the limb were taken off near the hip, which would have subjected the poor fellow to yet greater perils; the severity and danger of a thigh amputation being in a great measure in proportion to the nearness of the mutilation to the trunk.

Another discouraging reflection was, that there would also remain after the operation an ulcer, three inches in diameter, situated over the sacrum, and occasioned by the pressure of the bedding. These various circumstances were bad enough; yet having had opportunities of seeing amputation frequently save patients who were in a still more reduced condition than this patient, I proposed the operation, to which, after two days' hesitation, he made up his mind.

After a mature consideration of this case, I have arrived at the conclusion, that it was in truth, originally, not merely a fracture extending into the knee-joint behind the patella, but a compound fracture of the thigh; and that what is described in the case-book as a slight graze, must have been an opening formed by the very sharp end of the upper or lower fragment of bone; for otherwise, I think that the abscess which followed would not so soon have found an outlet at this point, which, on the first removal of the bandages, was seen converted into an opening, from which a thin brownish matter was discharged. The manner, also, in which the accident took place likewise corroborates this inference; for the man fell with immense force, as he was carrying a female who had fainted, down some steps out of a concert-room; and consequently the violence of the fall was increased by her additional weight.

In operating, I selected the method in which an anterior and a posterior flap are formed; for though lateral flaps seemed best calculated to facilitate the escape of the matter, which was likely to be abundant in a case like this, where a portion of the cyst of an abscess was unavoidably left behind, yet, having learned from experience that when lateral flaps are made in the thigh, that the bone is much disposed to protrude at the anterior angle of the wound, I preferred the other method. You will immediately perceive why there is a tendency to protrusion of bone when lateral flaps are made; it evidently depends upon the following circumstances: first, upon the nearness of the end of the bone to the front angle of the wound; secondly, upon the weight of the flaps themselves, which, as the patient lies in bed, necessarily gives them a propensity to incline backwards. To these two considerations must be added the

effect of the occasional action of the psoas and iliac muscles in drawing the femur forwards, which increases the tendency to protrusion of the end of the femur when the flaps are lateral, but has not the least influence in this way when the flaps are placed anteriorly and posteriorly.

Some time ago I amputated a thigh in this hospital with lateral flaps, and I am sure that if it had not been for the great skill evinced by Mr. Chapman, my late house-surgeon, in dressing the stump and supporting the flaps well, there would have been a protrusion of the end of the bone; but fortunately this was avoided, and the man, a butcher in this neighbourhood, has a firm, well-cushioned, excellent stump. M. Velpeau tried the method with lateral flaps; but the patient was not so lucky as mine, for the bone protruded, and the stump went on so badly that the patient sunk. Hence, M. Velpeau declares that he will not adopt this plan of operating again. In general, the anterior flap should be longer than the posterior; but, in our case, the latter was made rather longer than the anterior one, because it was desirable to remove with the limb the parts in front of the thigh, in which several incisions had been made, and from which the matter had partially been discharged during the treatment antecedent to the operation. The reasons for generally forming the anterior flap longer, and the posterior one shorter, are, that the latter may not make too extensive a pouch for the lodgment of matter; for it is manifest, that from this part of the wound the pus cannot so readily discharge itself as it can from beneath the anterior flap. Another advantage is, that if the bone be well covered with the anterior flap, there will be little risk of a protrusion of the end of the bone, followed by necrosis and tedious exfoliations, or even by the necessity of another operation to get rid of the dead bone.

You will observe, that in this hospital the wound is not closed directly after the operation, but merely covered with lint or linen, wetted with cold water. The advantage of this plan is, that time is afforded for all the bleeding to cease before the surfaces of the wound are brought together; and, by this means, they are not so likely to become separated again by effused blood, as when the stump is dressed in the usual way. If the wound of amputation be dressed while the oozing of blood is going on, the cavity of it is soon filled with clotted blood, which not only acts disadvantageously by mechanically separating the surfaces of the wound, but is infinitely less fit, as a medium of union, than coagulating lymph or fibrin, because it is not, under these circumstances, organizable like the latter plastic substance. I may say, in fact, that it rather acts as an extraneous matter, unfavourable to the adhesive inflammation, or union by the first intention, than as the source of any good.

The stump was therefore not closed till the evening with isinglass plaster. But besides the considerations in favour of this method which I have been explaining, there is another that has some influence with me: if any hæmorrhage take place within the first few hours after the operation, the bleeding vessels can be secured without subjecting the patient to all that suffering which is necessarily produced by removing the numerous straps of adhesive plaster employed in the old and still too common practice, and by then opening the stump again. In fact, in our case, two or three small arteries did bleed in the course of the afternoon, but were immediately secured with the utmost facility, and without the slightest disturbance of the wound imaginable.

Four hours after the operation, in consequence of the patient being seized with vomiting, it was necessary to give him a draught containing two minims of dilute hydrocyanic acid. Notwithstanding this, the vomiting of a black bilious matter went on till after midnight, when it finally ceased. Since then the patient, with the assistance of the muriate of morphia, given in the dose of gr. j. every evening, has generally passed very comfortable nights; he is free from pain, and eats and digests his food as favourably as can be expected.

On the 9th, however, his pulse was so weak and frequent, and his countenance so bad, that he was considered to be in a dangerous condition. To-day he is quite changed for the better, and the discharge from the stump is diminishing, and of better quality.

The knee-joint, which is put on the table for your inspection, shews the extension of the fracture into the joint, the pointed and irregular projections of the broken bone, and the absorption of the greater part of the cartilage from the posterior surface of the patella, the condyles of the femur, and head of the tibia. These facts attest the hopeless condition of the patient had amputation not been performed. The progress of this severe case, be it favourable or unfavourable, I shall again notice.

Varicose veins of the leg, treated with the twisted suture.

Gentlemen,—This practice, as you have had opportunities of seeing, continues to be pursued in this hospital.

John Griffiths, æt. 44, a mason, a tall muscular man, of intemperate habits, and habitually constipated, has been troubled with varicose veins of the lower extremity for fifteen years. As a consequence of this diseased state of the veins, he also had a large and obstinate ulcer on one of his legs, which, however, healed up some considerable time ago, and has not broken out again. But, below the inner malleolus, there is another ulcer, that has continued about three months. The branches of the great saphænal vein, as usual, are those principally affected, and they exhibit a tortuous, knotty, and swollen appearance, very conspicuous when the man stands up. In consequence of this state of the veins, a good deal of aching pain is always experienced in the limb after exercise.

For the purpose of obviating the disposition to ulceration in the leg, and relieving the pain in the limb, caused by work or exercise, I have tried the application of twisted sutures to the enlarged veins.

Oct. 1, I began with a single one, which was placed under the great saphænal vein in the upper third of the leg. While the man stood up upon his bed, so as to render the vein large and manifest, it was taken between the forefinger and thumb, and a steel sharp-pointed pin, about three inches in length, passed under it. Some thread was then twisted firmly round the ends of the pin, and the redundant portions of the pin cut off with a small pair of bone forceps.

After the pin had remained about eight days it was withdrawn, and two more twisted sutures applied to an enlarged portion of the vein lower down. The progress of the case is now open to your observation.

When this practice was first adopted on the continent, the pin was sometimes merely passed through the vein, and no thread twisted round it at all. Afterwards the pin was introduced under the vein, and the twisted suture was employed, and allowed to remain until thrown off by ulceration. This was tedious, and sometimes left a painful and obstinate sore.

Mr. Liston was led, therefore, to try the improved method of removing the pin and the suture altogether as soon as the ulcerative process had fairly commenced; so as to expedite the cure and avoid the formation of an ulcer. This is the plan now pursued in the case before us.

The following advice I venture to offer you on the treatment of varicose veins with the twisted suture. Do not hastily resort to it, or any other operative measure, in any unfavourable state of the constitution; for, if you do, your patient may be attacked with erysipelas, or severe abscesses, or, what is more formidable, with phlebitis, and the result be fatal, an instance of which I will relate. The case occurred very recently in this hospital.

Ulcer of the Leg, accompanied by varicose veins, for which twisted sutures were applied.—Phlebitis, and death of the patient.

Edward Ranger, æt. 59, by trade a dyer, and a man of intemperate habits, admitted June 19, 1839, with an ulcer of considerable size on the right leg, and many tortuous varicose veins connected with it. The sore was at first covered with the water dressing, and after the man's bowels had been cleared out with a dose of calomel and senna mixture it was determined to try to cure the varicose veins with twisted sutures, and three were at once made; one about four inches above the knee, and two others below it.

June 23.—Severe pain in the situation of the sutures.

25th.—The sutures below the knee now cause no pain, but that in the thigh still keeps up great suffering, and has brought on swelling.

26th.—Sleepless night, and appetite bad. Upper suture withdrawn.

Two grains of calomel, and one of opium, every night. Water dressing applied.

27th.—Very severe pain in the left shoulder and arm. Two or three shivering fits, each of half an hour's duration, succeeded by heat and other febrile disturbance.

28th.—Shoulder and arm still exceedingly painful. Another shivering fit this morning. Considerable redness and hardness at inner side of the thigh, in the course of the great saphænal vein. Pulse frequent. Tongue furred.

Saline antimonial mixture every four hours. Calomel and opium continued. Fomentations.

The indisposition being severe, the two other pins were removed.

July 8.—Until this date, the case went on without any material change, attended with great pain in the shoulder and arm; but now the man was attacked with profuse diarrhœa; the pulse became weaker and more accelerated, and the tongue thickly covered with a dark yellow fur.

Pill omitted. Chalk mixture, with opium, prescribed, and a liniment for the painful shoulder.

10th.—Diarrhœa stopped. Debility increased. Pulse small and quick. Brown and dry fur on the tongue.

Mixture discontinued. Wine and porter allowed.

12th.—Chalk mixture required again. Abscesses in the thigh in the situation

where the upper suture had been applied. Openings made for the discharge of the matter. Poultice.

15th.—Pain in shoulder unabated. Bowels yet too loose. Pulse fluttering and irregular. Tongue coated with a black fur.

17th.—Delirium. Diarrhœa, and extreme anxiety of countenance. Death at 7 P.M.

Sectio Cadaveris.—Surface generally of a yellow tinge. *Thorax:* lungs extensively adherent to the parietes of the chest, especially the left, and the adhesions not of long standing. Tubercular deposits in various stages within the lungs. In the pericardium three ounces of serous fluid. Heart somewhat enlarged and softened. Osseous deposits in the semilunar valves of the aorta, and under the lining of left ventricle.

Abdomen.—Left kidney contained pus. The right iliac vein also had pus in it as high up as the vena cava. The crural vein was occupied by purulent matter, as well as the popliteal.

A large quantity of purulent matter was found under the fascia lata and in the intermuscular cellular tissue. The right hip and knee-joints both contained pus, and within the left shoulder-joint, and in the textures external to it, pus was likewise detected.

REMARKS.—Gentlemen, this case illustrates many interesting points.

1. The usual commencement of phlebitis between the second and twelfth days after the injury and suppuration of a vein.

2. The usual symptoms and perils of *suppurative* phlebitis,—anxiety, prostration of strength, repeated rigors, quick feeble pulse, yellowness of the skin; pain, inflammation, and abscess, in one or several of the synovial cavities or viscera. In our case you find pus was formed in the kidney and in various joints. Dry, brown or black tongue; in latter stage diarrhœa and delirium. Great hardness in the course of the inflamed vein. Abscesses in the thigh.

3. The general fatality of *suppurative* phlebitis when the pus gets directly into the circulation, as it were, unprepared by the action of absorption for such transmission.

4. The inefficiency of any treatment yet suggested, after the effects of the admission of pus into the circulation have commenced.

5. The case calls our attention to the question, under what circumstances is the attempt to cure varicose veins of the leg justifiable by any means attended with a risk of exciting this formidable disorder? I should say, certainly not, if the varicose veins, and the ulcer connected with them, admit of relief from other plans, and are not producing severe annoyance, nor are generally interfering with a person's endeavour to gain a livelihood.

Then, if this kind of twisted suture be adopted, ought we to apply it at once in several places, or only in one, repeating it afterwards, if another is necessary? The latter method is probably the safest. In particular, I advise you not to adopt the practice at all in unfavourable constitutions.

WESTMINSTER HOSPITAL.

Infiltration of Urine into the Scrotum and Cellular Tissue of the Abdomen.

[Reported by Mr. RICHARD YOUL.]

THOMAS LOCKWOOD, aged 39, was admitted 54th Sept. under the care of Mr. Anthony White.

He was of middle stature, and a lymphatic temperament. The scrotum was tumefied, and of a purple colour. This dark colour extended over the hypogastric region. The patient complained of a dull heavy pain in the scrotum, and he could not move his body without much suffering. His pulse was 64, wiry; his tongue furred; and his countenance anxious.

He had been a grocer, and not very sober in his habits. He had successive attacks of gonorrhœa, which ended in producing stricture. The stream of urine gradually diminished in size, and yet no effort was made to remedy the evil.

On Monday the 23d, when making severe muscular efforts to expel his water, he felt suddenly as if something had burst in the right groin. This was followed immediately by the occurrence of pain. He went to a dispensary, where an attempt was made to pass the catheter, but in vain. Next morning he came to the Westminster Hospital

The patient was first seen by Mr. Hale Thomson, who ordered him a warm bath, at 100° Fah. Mr. White was then sent for, and attended with his characteristic promptitude. He made an incision through the tumefied scrotum, on each side of the raphe, downwards, as far as within an inch of the anus. A copious exudation of serum took place. Thirty leeches were applied to the abdomen, and twenty minims of Battley's sedative liquor of opium given every four hours.

3 P.M.—The leeches bled freely. The bleeding was encouraged with warm fomentations. The pain is less.

9 P.M.—The patient seen again by Mr. White. He had not passed any urine, and a bougie could not be introduced. More incisions made in the scrotum. The remedies to be continued.

25th, 9 A.M.—The patient has slept but little during the night. He expelled a little urine, *guttatim*, this morning. The pulse is 72; the bowels freely open.

1 P.M.—Countenance less anxious; pulse 68; tongue clean. The abdomen, however, retains its darkened colour. Mr. White ordered the medicines to be continued.

9 P.M.—Great anxiety of countenance; pulse 84, small and compressible; intense headache; the tumefied parts of a darker purple hue; urine has dribbled away in the same scanty way as already stated. He appears sinking.

26th, 10 A.M.—The patient very much worse in all respects. Headache augmented; bowels confined; has not slept all night. A wild and anxious expression.

12 o'clock.—Mr. White saw him. The abdomen threatening to slough, a free incision was made upwards from the pubis, to the extent of about three inches. Ordered a draught of castor oil and tinct. sennæ. Fomentations to be applied all over the abdomen and scrotum. On examination, the whole cellular covering of the abdomen felt hard; the surface was very insensible also. Pulse 64, more full; the discharge of urine still very small. The opiates discontinued.

9 P.M.—The man seen by Mr. White and Mr. Hale Thomson. Another incision made in the affected part, at a right angle with the previous cuts, some inches in length. After a little time, a small quantity of urine flowed, *per urethram*, in a thin stream. At midnight the countenance was less anxious; pulse 64, regular. Fomentations applied at intervals.

27th, 10 A.M.—The bougie No. 2 introduced, and a large quantity of urine drawn off, affording signal relief to the patient.

12 o'clock.—Has slept well; pulse 60; no headache; looks much better altogether. The incision is beginning to slough. To have fish diet.

20th, 10 A.M.—He is much better, and has had a good night. Bougie No. 3 passed. The cellular tissue is becoming soft, and healthy pus is secreted.

29th, 9 A.M.—The bowels being confined, an aperient is ordered. He is improving.

30th, 10 A.M.—Catheter No. 4 introduced.

Oct. 2.—No unfavourable symptom has occurred. The dead cellular tissue has been removed with the forceps. Light poultices applied. Mutton chops permitted. No. 7 bougie introduced.

4th.—Progressing. Placed on full diet. The incisions healing.

8th.—Patient ejects his urine better than he has been able to do for the last ten years. The catheterism is continued.

16th.—Rapidly convalescing.

Application of Knox's Revolving Invalid Bedstead.

On Sunday, the 13th inst. Mr. White and Mr. Thomson made trial of Mr. Knox's apparatus, on the person of Ellen Ridd. She is a young woman, aged 23, who has been brought up as a shopwoman, and employed in that capacity from an early age. She has had, consequently, a great deal of standing. Three years ago she became affected with a general sense of debility, and pain in the middle of the spine. She continued her avocations for a year, receiving advice and medicine from Mr. Toogood, of Bridgewater, the town in which she resided. Unfortunately she derived no benefit from the line of treatment adopted.

Two years ago she was admitted to the Westminster Hospital, where she was immediately laid recumbent. She has remained in that position ever since, almost without intermission, but without deriving any benefit from it. She has at present a curvature in the antero-posterior direction, the legs are contracted upon the hams, and the thighs upon the pelvis. She is a little delicate woman, of a very fine complexion, and a very phthisical appearance. When fixed on Mr. Knox's bed, and laid prone, a long and careful examination of the vertebral column was made, without producing pain or inconvenience to the patient. It affords her much relief to have her head raised and the feet depressed, and this position, at any angle from the vertical to the horizontal line, may be maintained for any period that may be agreeably borne by the patient. About two hours is the length of time she likes to remain in this position. The revolving motion she bears very well.

There appears to be no doubt but that considerable absorption of the bodies of several of the dorsal vertebræ has taken place, but the attendant surgeons are sanguine that with the assistance of this excellent apparatus they may succeed in producing a safe anchylosis of the affected vertebræ, and they are sure of obviating a large quantity of suffering, which the patient would otherwise inevitably incur.

The contraction which has been mentioned occurred very suddenly about seven months ago, and has remained inveterate ever since. The nurse states that the dejections are removed with perfect ease, and without occasioning fatigue to the

patient. She sleeps tolerably well, and maintains an existence not totally devoid of enjoyment. We shall anxiously watch the progress of the case, and report the result.

REMARKS ON ENLARGEMENT OF THE TONSILS,

ATTENDED BY CERTAIN DEFORMITIES OF THE CHEST.

By J. Mason Warren, M. D.
Of Boston.

The object of this interesting paper is to point out, by the exhibition of a number of cases, the certainty and ease with which the operation for excision of the tonsils may be performed with the present improved instrument, and the great relief always experienced by the removal of these organs when in an enlarged state. Whilst nothing original is intended by the author in his remarks on certain deformities of the chest which complicate this disease, they may serve to draw attention to the relation which exists between the enlargement of the tonsils and this affection.

In 1827, M. Dupuytren published a paper, Dr. Warren remarks, on the lateral depression of the parietes of the chest, consisting of a depression more or less great of the ribs on each side, and a proportionate protrusion of the sternum in front, accompanied by some antero-posterior curvature of the vertebral column. A portion of these cases occurred in children of a scrofulous habit, and were invariably accompanied by an enlargement of the tonsils.

The symptoms described by M. Dupuytren, as attending this disease, were habitual shortness of breath, and difficulty of enunciation. With infants there was great difficulty in taking the breast, the child being threatened with suffocation whenever the nipple was detained for any length of time in the mouth. During sleep, the mouth was kept habitually open, and the respiration accompanied by great noise, and frequently interrupted by frightful dreams and cries. "These symptom," says M. Dupuytren, "may be increased so as to prevent the development of the vital functions, and cause death in the earliest period of life. When these difficulties do not induce death immediately, they may destroy life at a later period, either in preventing the child from taking the breast, or in so altering the nutrition as to prevent the development of the strength of the different organs; in this case death does not at once take place, but the child lives in a miserable state of feebleness and emaciation, which deprives him of the greater part of his faculties."

In 1827, shortly after the publication of this paper, Mr. Coulson, of London, published some cases in confirmation of those given by Dupuytren, adding, also, three cases of his own, of a deformity of the chest different from that before described. "The external appearances of the chest," says Mr. Coulson, "in this second kind of deformity, are directly the reverse of those which we have just been considering. The sternum is hollow or concave anteriorly, the sides of the chest are very prominent, and the spinal column but slightly, if any degree altered from its natural shape; this is not so frequently congenital as the former kind, but frequently occurs in persons of a weak habit, who are narrow-chested, and stoop a great deal. The constitutional symptoms are very much the same as those attendant on the other kind of deformity." In the three cases appended to the paper of Mr. Coulson, and three of the four cases of M. Dupuytren, enlargement of the tonsils existed; but in none of them does it appear that removal of these organs was practised, although it is stated that in one or two of them the tonsils were so large as nearly to fill up the posterior part of the fauces, so that we are not enabled to judge of what would have been the change effected on the symptoms referred to the chest, had this operation been performed.

Within the last two years twenty cases have occurred in our practice, in which it was thought necessary that an operation for the removal of the tonsils should be pratised: in nineteen of these cases the operation was successfully performed; in one case the tonsils projected so little into the throat, as to make it impossible to seize them with the instrument. The operation was temporarily deferred. Of these twenty cases, fifteen were children, or less than twelve years of age.

Of the fifteen children, eleven had more or less deformity of the chest, consisting, in the greater number, of a projection of the cartilages of the ribs forwards, with a considerable excavation of the sternum. In these patients very little curvature could be detected in the spinal column.

In the five adults, no alteration of the parietes of the chest was perceptible.

The symptoms occurring in these patients were as follows:

In every one of them was more or less difficulty in respiration, in many cases the noise being so great during sleep as to make it impossible for any person to sleep in the same room; the sleep was often disturbed by frightful dreams.

In many of the patients there was great difficulty of swallowing, liquid food being often regurgitated into the nostrils; in one case, no solid food could be taken without the previous use of a very powerful astringent. About half the cases were attended with severe constitutional symptoms.

In one case entire deafness was present. Some of the patients were liable to periodical attaeks of fever; in one case, a child, five years of age, returning, latterly, as often as once a fortnight, and lasting three or four days. Eight of the fifteen children showed more or less marks of a scrofulous habit. Eighteen of the patients had both tonsils removed; the other patient being so much relieved by the removal of one tonsil, that it was unnecessary to have the operation repeated on the other side.

In about half the patients this operation was performed on both sides the same day; in the others a week was allowed to elapse before the other tonsil was removed.

In eighteen out of the nineteen cases, almost immediate relief was afforded to all the symptoms; in the other case no great relief was apparent, and this seemed to be attributable to the particular shape of these organs, the base being quite broad, and extending some distance down the throat; about half of each tonsil was removed. At the end of a short period, an appearance was presented as if they had been again regenerated; this arose from the upper and lower portions rising or curling up, as it were, after the apex had been removed. At the end of two years, this patient submitted to a second opeation, followed by much relief, and is now in a fair way of recovery.

The operation, as performed by the present improved instrument, is instantaneous—not attended with much pain—in no case was there any considerable hæmorrhage—usually nothing more than a few mouthfuls of blood are discharged. The patients are able to return home and resume their ordinary occupations, as if nothing uncommon had occurred, a slight soreness only being experienced for the few following days.

We now proceed to offer one or two cases illustrative of the different symptoms of the disease, and may first seleet one which will present most of the symptoms oceurring in the course of it.

W. of Newton, Mass. five years of age, November, 1836. For the last two years, this child has been troubled by an enlargement of the tonsils, first manifested by a swelling which appeared on the outside of the throat, and supposed by the parents, at the time, to be mumps. As the disease increased the patient gradually lost his flesh and strength, and was subjeet to frequent sore throat, attended by febrile attacks, these latterly occurring as often as once in a fortnight, and lasting two or three days; his breathing at night was very difficult, and accompanied with mueh noise. The ear of one side was inflamed, attended with a purulent discharge; he was very sensitive to any loud music sounds. He is small of his age, thin, of an irritable disposition. The chest, on examination, is found to be much deformed, presenting that appearance called excavated sternum, it being very much depressed in its centre, and the ribs at their union with the cartilages elevated so as to form with them an acute angle.

The tonsils, on examination, are so much enlarged as to touch each other, and entirely obstruct the posterior part of the fauces; these swellings are distinctly felt and even visible on the outside of the throat, at the angle of the jaw; one of the tonsils was removed, and afforded immediate relief to all the symptoms. In the month of April following, some difficulty being experienced, the other was also excised. I saw the patient, August 3d, 1837, nearly a year after the first operation. From being a miserable child, and who, as is mother stated, to use her own words, "she had not the least idea of raising," he has become a fine healthy boy—has been perfectly free from difficulty of respiration, and no febrile attack since the operation.

The sensitiveness of the ear had diminished, and the deformity of the chest was much less obvious.

The object of his calling was from having experienced the day before some oppression at the stomach, which induces difficulty in the respiration; and his mother, fearing a return of his old disease, immediately brought him into town. The symptoms were explained, by his having passed a fortnight absent from home, where he had been allowed rather too much freedom in his diet.

The following is a case of a person of a more advanced age, in which deafness was produced by the disease:

B., aged 18—November, 1836.

For two or three years has been subject to frequent attacks of sore throat; for three months has had a purulent discharge from the right ear; is now quite deaf in both ears, so as to require to be spoken to in a very loud voice. It is for this deafness that he applies for advice.

On examination of the ears by the speculum, the tympanum on both sides was found to be in a perfectly sound state; on the side from which the discharge appears, the lining membrane of the ear is reddened, and covered by a purulent deposit. The patient bears all the marks of a

scrofulous constitution. The tonsils are found to be very much enlarged, attended with considerable redness of the back part of the fauces.

Astringent remedies being tried for a fortnight without effect, both tonsils were removed On the following day he began to hear better; on the second day his hearing was perfectly restored, and sounds became even so acute as to be painful.

In a day or two the deafness returned, and lasted a week; he then recovered his hearing, and has remained perfectly well since. I have seen him lately, more than two years having elapsed since the operation; and he has experienced no return of his difficulty.

Jan. 1838.—A gentleman, twenty years of age, from the Western country, called on me with the tonsils greatly enlarged; he had been troubled with this affection five years, and has tried many applications without effect. For the last year he has been unable to swallow solid food without having first snuffed a great quantity of tobacco, which apparently caused sufficient contraction or insensibility of the parts to allow of the passage of the food. If the use of the tobacco was omitted for a single night, he found it difficult and sometimes impossible to swallow.

Both tonsils were removed at the same time; very little hemorrhage occurred, and the operation was immediately followed by great relief.

Miss J. twelve years old, from Maine. This child, from infancy, has been suffering from enlarged tonsils; within a few years they have become very much increased in size, so as to materially affect her health. She is very subject to sore throat, attended with severe febrile affections. She is of a dark complexion, black hair and eyes, quite thin, and rather tall of her age.

The tonsils are very large, fleshy, and vascular, and present less of that indented appearance usually observed where there have been frequent inflammations. When the respiration is quiet, the tonsils touch each other. The chest on examination is found to be very much deformed, presenting that alteration, called excavated sternum, in its most exaggerated form; the hollow lining almost large enough to contain a small orange: this deformity has been, for many years, observed by her parents.

The breathing at night is very difficult and noisy; she is subject to attacks of deafness, and at present does not hear unless addressed in a loud voice.

The right tonsil was removed on the 12th, and the patient at once relieved by it; five days afterwards the other tonsil was removed, leaving the throat perfectly free. On the 25th I saw the patient, and the mother informed me that all the previous bad symptoms were removed—that the child has quite recovered her health. The difficulty of breathing is relieved, and her hearing returned; a cutaneous eruption which had long troubled her has dispeared.

To these cases might be added one or two in which these organs were removed while the patient was labouring under an attack of severe tonsilitis. In one case the symptoms were immediately removed by the operation; in another inflammation had extended to the adjacent parts, and an abscess formed, as is often in this disease. The affection, however, was much shortened in duration, lasting four days, instead of fourteen, as had been usual with this patient, who was liable to attacks every winter. The operation was repeated, and the other tonsil was removed on a subsequent attack, with the same result.

Some time since I communicated to this society the case of a young child from Maine, who was brought to Boston suffering from a disease of the throat. The parents seemed to be quite unconscious of the cause of its troubles. There was great difficulty of breathing and deglutition. The child had a spoon, the bowl of which it placed almost instinctively in its mouth when going to sleep; its health was very miserable. The trouble was entirely explained by the discovery of the enlarged tonsils quite obstructing the throat. The removal of them was followed by great relief.

The mother informed me that another child had died with the same symptoms a few years previous, the cause of its illness being unknown. They resided in an obscure spot, distant from any competent medical advice.

In these cases of the disease occurring in infancy where deformity of the chest exists, Dupuytren advises that this affection should be treated in the following manner:—The child being placed in the lap of its nurse, the hand is pressed on that part of the sternum or ribs which projects; a strong pressure is then made during inspiration, and removed during the movements of expiration. This repeated for many times daily, and continued for a long period, finally results in the disappearance of the deformity, or in a great improvement of appearance. As has been attempted to show above, however, it will be evident to all that the symptoms arise, certainly in the great number of cases, not from the deformity, but from the obstruction in the throat to the free passage of air.

The instrument* used in these opera-

* Invented by Caleb Eddy, Esq., of Boston.

tions, has usually been the guillotine instrument, as described by Dr. Warren in his work on Tumors, being somewhat similar to that of Dr. Physick; it is, however, without the steel moveable needle used to fix the tonsil and prevent it from falling into the throat, which appears to be useless, as the blade of the instrument drives the lining membrane of the tonsils into its groove, and thus secures it; and even if this were not the case, the mucus which covers the fauces causes the excised part to adhere to the blade, so that there is no danger of its escaping into the throat.

In very young children, where the passage of the fauces is narrower, a more delicate instrument, invented by Dr. Fahnestock, of Pennsylvania, is, perhaps, preferable*.

ROYAL COLLEGE OF SURGEONS IN LONDON.

To the Editor of the Medical Gazette.

SIR,

I AM directed by the President to transmit to you the inclosed copy of Regulations, lately established by the Council of this College, relating to professional education of candidates for its diploma, now commencing their professional studies.

I am, sir,
Your most obedient servant,
EDMUND BELFOUR, *Sec.*

October 23, 1839.

Regulations of the Council respecting the professional education of candidates for the diploma.

I. Candidates will be required, in addition to a Certificate of being not less than twenty-one years of age, to bring proof—

1. Of having been engaged in the acquirement of professional knowledge during a period of not less than four years; six months of which shall have been occupied in the study of Practical Pharmacy, six months by attendance on the practice of physic, and the remainder of the period on the practice of surgery, at a recognised hospital or hospitals in the united kingdom:—three months being allowed for a vacation in each year.
2. Of having studied anatomy and physiology, by attendance on lectures and demonstrations, and by dissections, during three anatomical seasons or sessions†:—and of having attended at least two courses of lectures on the principles and practice of surgery, delivered in two distinct periods or seasons, each course comprising not less than 70 lectures:—And one course of not fewer than 70 lectures on each of the following subjects, viz. the practice of physic—chemistry—materia medica—and midwifery, with practical instructions;

II. Members and licentiates in surgery of any legally constituted college of surgeons in the united kingdom, and graduates in surgery of any university requiring residence to obtain degrees, will be admitted for examination on producing their diploma, license, or degree, together with proofs of being 21 years of age, and of having been occupied at least four years in the acquirement of professional knowledge.

III. Graduates in medicine of any legally constituted college or university requiring residence to obtain degrees, will be admitted for examination, on adducing, together with their diploma or degree, proof of having completed the anatomical and surgical education required by the foregoing regulations.

IV. Certificates will not be recognised from any hospital unless the surgeons thereto be members of one of the legally constituted colleges of surgeons in the united kingdom; nor from any school of medicine or midwifery, unless the respective teachers be members of some legally constituted college of physicians or surgeons in the united kingdom, nor from any school of anatomy or surgery in England, unless the respective teachers be members of some legally constituted college of physicians or surgeons in the united kingdom, and have undergone a second or special examination on those branches of science, according to the ordinances of this college relating thereto.

V. Certificates will not be received on more than one branch of science from one and the same lecturer; but anatomy and physiology—demonstrations and dissections—will be respectively considered as one branch of science.

N. B. In the certificates of attendance on hospital practice and on lectures, it is required that the dates of commencement and termination may be inserted in words at length.

Blank forms of the required certificates may be obtained on application to the secretary, to whom they must be delivered, properly filled up, ten days before the candidate can be admitted to examination; and all such certificates are retained at the college.

By order of the council,
EDMUND BELFOUR, *Sec.*

August 20th, 1839.

* American Journal. of Med. Sciences.

† An anatomical season is understood to extend from October to April inclusive, and to comprise at least 140 lectures on anatomy and physiology, occupying not less than one hour each, given on separate days; and at least 100 demonstrations of the like duration, given in a similar manner; exclusive of dissections, of which distinct certificates are required.

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, Oct. 22, 1839.)

	Price.		Duty.	Duty Paid.	
				In 1839 to last week	Same time last year.
	£ s. d.	£ s. d.	s. d.		
Aloes, Barbadoes, D.P. c	15 0 0	to 30 0 0	B P. lb 0 2	110,530	86,807
Hepatic (dry) BD..... c	5 0 0	10 0 0	F. lb 0 8	94,281	75,750
Cape, BD. c	3 10 0	3 14 0			
Auise, Oil of, German, D.P....lb	——	——	F. lb 1 4	——	133
E. I. .....lb	0 5 0	0 5 6	E. I. 1 4	1,481	972
Asafœtida, B.D. c	1 10 0	3 10 0	c 6 0	20	43
Balsam, Canada, D.P. .....lb	0 1 0	0 1 1	lb 0 1	10,728	6,470
Copaiba, BD.....lb	0 2 6	0 3 0	c 4 0	506	205
Peru, BD. .....lb	0 4 6	——	lb 1 0	595	1,798
Benzoin (best) BD..... c	25 0 0	50 0 0	c 4 0	104	70
Camphor, unrefined, BD..... c	13 10 0	——	c 1 0	389	490
Cantharides, D.P. .....lb	0 3 6	0 4 0	lb 1 0	13,878	12,931
Caraway, Oil of, D.P. .....lb	0 8 0	0 8 6	lb 4 0	987	592
Cascarilla or Eleutheria Bark, D.P.C.	3 10 0	——	lb 0 1	2,201	4,579
Cassia, Oil of, BD.....lb	0 7 0	——	lb 1 4	341	3,633
Castor Oil, East India, BD.....lb	0 0 4	0 0 10	c 1 3	5,503	4,916
West I. (bottle) D.P. 1½lb	——	——	——		
Castoreum, American .....lb	0 17 0	0 18 0	lb 0 6	629	782
D.P. Hudson's Bay .....lb	0 18 0	1 0 0			
Russian.....lb	none				
Catechu, BD. Pale c	1 1 0	——	c 1 0	27,668	29,484
Dark	1 7 0	——			
Cinchona Bark, Pale (Crown)....lb	0 2 0	0 3 6	lb 0 1	38,109	95,469
BD. Red .....lb	0 2 0	0 4 0			
Yellow .....lb	0 4 0	0 4 4			
Colocynth, Turkey .....lb	0 1 6	0 2 9	lb 0 2	7,743	13,183
D.P. Mogadore .....lb	0 1 0	——			
Calumba Root, BD. c	0 12 0	1 15 0	lb 0 2	9,384	17,939
Cubebs, BD. c	2 10 0	——	lb 0 6	34,968	22,603
Gamboge, BD. c	5 0 0	15 0 0	c 4 0	50	85
Gentian, D.P. c	1 6 0	1 8 0	c 4 0	454	482
Guaiacum, D.P.....lb	0 1 0	0 3 0	c 6 2	15	39
Gum Arabic, Turkey, fine, D.P... c	11 0 0	——			
Do. seconds, D.P. .. c	7 10 0	——	c 6 0	6,379	6,571
Barbary, brown, BD. c	1 17 0	1 18 0			
Do. white, D.P..... c	5 10 0	——			
E. I. fine yellow, BD. c	2 5 0	2 14 0	c 6 0	6,059	5,371
Do. dark brown, B.D. c	1 15 0	2 5 0			
—— Senegal garblings, D.P. c	3 6 0	——	c 6 0	18,317	18,201
—— Tragacanth, D.P. c	8 0 0	12 0 0	c 6 0	70	453
Iceland Moss (Lichen), D.P. ....lb	0 0 2½	0 0 3	lb 0 1	15,933	5,179
Ipecacuanha Root, B.D. .....lb	0 1 6	——	lb 1 0	6,218	11,350
Jalap, BD. .....lb	0 2 2	——	lb 0 6	32,377	33,347
Manna, flaky, BD. .....lb	0 3 6	0 4 0	lb 0 3	9,388	5,829
Sicilian, BD. .....lb	——	——			
Musk, China, BD. .....oz	1 0 0	2 0 0	oz 6 0	1,513	1,665
Myrrh, East India, BD. c	5 0 0	14 0 0	c 6 0	193	124
Turkey, BD..... c	2 0 0	11 10 0			
Nux Vomica, BD.....lb	0 8 0	0 9 0	lb 2 6	478	740
Opium, Turkey, BD. .....lb	0 10 0	——	lb 1 0	25,709	22,900
Peppermint, Oil of, F. BD.....lb	0 15 0	——	lb 4 0	1,871	751
Quicksilver, BD. .....lb	0 3 10	——	lb 0 1	267,616	315,984
Rhubarb, East India, BD.....lb	0 3 0	0 6 0	lb 1 0	21,214	30,213
Dutch, trimmed, D.P. lb	0 4 0	0 3 0	F. lb 1 0	2,281	5,624
Russian, BD. .....lb	——	——			
Saffron, French, BD. .....lb	0 16 0	0 16 6	lb 1 0	3,696	4,011
Spanish .....lb	0 16 0	0 17 6			
Sarsaparilla, Honduras, BD.....lb	0 1 0	0 1 9	lb 0 6	94,840	98,041
Lisbon, BD. .....lb	0 2 0	——			
Scammony, Smyrna, D.P.....lb	——	——	lb 2 6	7,066	6,225
Aleppo .....lb	0 18 0	1 0 0			
Senna, East India, BD. .....lb	0 0 3	0 0 4	E.I. lb 0 6	98,732	59,751
Alexandria, D.P.....lb	0 1 6	0 1 8			
Smyrna, D.P. .....lb	0 1 0	0 1 3	Other sorts 0 6	56,213	54,335
Tripoli, D.P. .....lb	0 1 0	0 1 3			

‡§‡ BD. In Bond.—c. Cwt.—B. P. British Possessions.—F. Foreign.—D. P. Duty paid.

DR. BARON'S PAPER.

To the Editor of the Medical Gazette.

SIR,

I TAKE the earliest opportunity of acknowledging the inaccuracy pointed out by Dr. Gregory in your last number. How it escaped the observation of the gentlemen who examined the report before it was submitted to the Section, I cannot tell; and I am still more at a loss to understand how it did not attract my own attention, as I had, on a former occasion, quoted the facts from Mr. Crosse's book, and they accord entirely with those mentioned by Dr. Gregory, (see Life of Jenner, Vol. i. p. 282.)

The examination of a great multiplicity of documents, and the hurried and broken manner in which medical men are for the most part constrained to carry on their inquiries, will in some degree explain, if it does not altogether excuse, the mistake that has been committed. Should other errors be detected, I am sure that every member of the Section will be glad to have them pointed out and corrected, as their sole object is to discover and diffuse the truth.—I remain, sir,

Your obedient servant,

J. BARON.

Cheltenham, October 22d, 1839.

MARISCHAL COLLEGE.

WE learn that the Crown has instituted a Professorship of Anatomy and one of Surgery in Marischal College and University, and has presented Allen Thompson, M.D., Lecturer on Anatomy in Edinburgh, to the former professorship, and William Pirrie, M.D., formerly Lecturer on Anatomy to King's and Marischal Colleges, to the latter.—*Aberdeen Herald.*

MEDICAL APPOINTMENT.

DR. FOX has been elected to succeed Dr. Thomas Davies as Physician to the Infirmary for Diseases of the Lungs.

FRESH VACCINE VIRUS.

DR. CHARLES A. LEE, of New York, informs us that he has lately obtained virus from a cow affected with kine pock. It is very common, he states, for the cows that go on board our New York, Liverpool, and Havre packets, to have this disease; and the cow from which I got it came from one of these packets. The agent informed me that there is hardly a time in the year but that some of the cows are affected with it.—*Amer. Journ. of Med. Sciences.*

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Oct. 17, 1839.

William Kirby Lerew, Kent.—Thomas Robinson Clarkson, Richmond, Yorkshire.—William Mathias Jones, Pembroke, South Wales.—Alfred John Hyde, Bristol.—Robinson Aspinall, Bradford, Yorkshire.—William Stone, Arundel.—Frederick Howe Hale, Richmond, Surry.—Richard Chambers.—John Macmeikan, Stranraer, Wigtonshire.—Edwin Morris, Sutton in Ashfield, Notts.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Oct.* 22, 1839.

Abscess	1	Hooping Cough	3
Age and Debility	21	Inflammation	17
Apoplexy	2	Bowels & Stomach	7
Asthma	2	Brain	1
Cancer	1	Lungs and Pleura	8
Childbirth	1	Influenza	1
Consumption	26	Insanity	2
Convulsions	32	Liver, diseased	2
Dentition	6	Measles	14
Dropsy	10	Rheumatism	1
Dropsy in the Brain	2	Small-pox	2
Fever	9	Spasms	2
Fever, Scarlet	15	Unknown Causes	74
Fever, Typhus	3		
Heart, diseased	2	Casualties	2

Decrease of Burials, as compared with the preceding week . . . 5

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Oct.	THERMOMETER.		BAROMETER.	
Thursday . 10	from 56	to 62	29·57	to 29 62
Friday . . 11	49	66	29·58	29·55
Saturday . 12	48	38	29 74	29·89
Sunday . . 13	43	57	29·94	29·92
Monday . . 14	36	58	29 85	29·80
Tuesday . . 15	38	55	29·74	29·84
Wednesday 16	39	55	29·94	29·97

Prevailing Wind, S.W.

Except the mornings of the 10th and 15th generally clear, rain fell on the 10th, 11th, 12th, and 16th. Lightning during the evening of the 11th.

Aurora Borealis very brilliant, with corruscations of a deep crimson colour, extending from North to West on the evening of the 13th, from 8 till half past.

Rain fallen, ·275 of an inch.

CHARLES HENRY ADAMS.

NOTICE.

We regret very much that we are obliged to decline the paper of Dr. Fergusson, as we cannot have the discussion on Yellow Fever continued—unless in the *extra limites* department.

W. OGILVY, Printer, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, NOVEMBER 1, 1839.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.

Introduction.

Gentlemen,—That a competent knowledge of the history of surgery is a very desirable acquisition for a student in medicine, no one I apprehend will deny. That such a history is a fitting introduction to a treatise on surgery, is equally certain; but the extent of a course of surgical lectures is far too limited to justify me in occupying your time with a subject which must yield in importance to many we have to consider. I must therefore content myself with referring you to those sources from which it may be gleaned.

I say gleaned, because, with the exception of a short sketch by Mr. S. Cooper, and one in the Dictionnaire de Médecine, by M. Dezeimeris, nothing like a separate history of the science exists. Still you may obtain what is necessary by consulting Cabanis' Revolutions of Medicine; Sprengel's History of Medicine; a sketch, by Bostock, and another by Gaste.

Between medicine and surgery no line of demarcation can be drawn so as exactly to define the relative province of one or the other;—none which would be useful to the progress of science or the cause of humanity. The early masters, or, as they have been termed, fathers of medicine, were fully sensible of this, and they practised indiscriminately both sciences. The school of Alexandria is the only early exception to this rule. If we consult the writings of Herodotus, we find that among the Egyptians the practice of medicine was subjected to almost infinite subdivisions: they had as many classes of professors of the healing art as there were organs in the human body subject to disease. But, in 1163, the Council of Tours issued a decree by which that union was ruptured which had been consecrated by the practice of more than fifteen centuries. By that decree, the clergy, who shared with the Jews the exercise of medicine in Christian Europe, were prohibited from performing any bloody operation. At this period a very large majority of the practitioners of the healing art were attached to the church, and though they were not connected with the religious castes by indissoluble bonds, the law of celibacy which was imposed upon them always gave them a right to resume the ecclesiastical state; and their success in the healing art frequently conducted them to the richest benefices and the highest dignities. It was therefore natural that they should conform to the laws of the church, which promised them at the decline of their career honours and fortune. It was probably obedience to the canons of Councils, as much as to a false delicacy and a ridiculous vanity, that induced these doctors to abstain from the practice of surgery. For a long time previously they were in the habit of employing their barbers to perform, under their eye, dressings which did not require the hand of a surgeon. Either in consequence of fortuitous circumstances, or to avoid having recourse to rival practitioners, they gradually employed the same men to bleed, to open abscesses, and other similar operations. Surgeons themselves, who in those days performed only minor operations, contributed to extend this evil by employing these men in the more menial offices

connected with the exercise of their art; and dearly they paid for it. The barbers soon discovered that their new calling was more desirable than shaving beards and dressing hair, and were not long in regarding it as the most important branch of their profession: they laboured hard, and at last, in those days of privileges, they succeeded in obtaining in many European countries a legal sanction. Under the shade of their new constitution, and vulgar credulity, they daily encroached upon the paths of science, undertook the treatment of the gravest diseases, and at last openly styled themselves surgeons.

Although I am not aware of any legislative enactment in our own country of an earlier date than the reign of Henry the Eighth, letters-patent appear to have been granted in the first year of the reign of King Edward the Fourth, granting to the members of the Barbers' Company in London, using the mystery or faculty of surgery, the exclusive right to practise as surgeons within the city of London and the suburbs thereof. The Society of Barbers continued so incorporated until the thirty-second year of King Henry the Eighth, when the surgeons appear to have become an equally dignified body with the barbers, and were incorporated with them under the name of the Commonalty of Barbers and Surgeons of London, and the barbers were precluded from exercising within the city, and one mile thereof, the practice of surgery, except drawing teeth only, while the surgeons were precluded from exercising the feat or craft of barbery or shaving.

We cannot without interest contrast the position of the science of surgery in the reign of Henry the Eighth, with that which it now occupies. Scarcely elevated above the barber—precluded only by legislative enactment from combining the feat or craft of barbery with the mystery or cunning of surgery—suspected by the legislature of employing sorcery and witchcraft, as well as using medicines—what a picture does this present of a profession which has produced a Pott, a Hunter, and an Abernethy! It was not until the middle of 1745 that the surgeons were separated from the barbers, and incorporated by themselves. It was not until the year 1815 that any restraint was imposed upon the practice of medicine or surgery in other places than London and its neighbourhood. From the hour of this separation by religious prejudices, physicians and surgeons have been struggling for chimerical rights which they can never obtain.

I have pointed out how the separation was brought about. I will now proceed to show you why it cannot be maintained.

Medicine, in its proper acceptation, is composed of four principal parts—anatomy and physiology: the first informs us of the disposition and structure of organs; the second of their properties and their functions. Hygiene, the art of preserving health, or so using external things and our own faculties as to preserve our organs and prolong life. Pathology, which is the science of diseased man: all the derangements which our organs can experience, either in their relative disposition in their internal structure, should be ranged in its domain; whatever may be the tissue, the organ, the system, or apparatus affected, whatever consequently the seat of the disease, we must define pathology to be the derangement of one or many functions of the economy. And Therapeutics, which is the art of treating diseases: and as the relief or cure of disease is sometimes the effect of regimen, at other times of the administration of medicine, and sometimes results from an operation of the hand, therapeutics must be divided into dietetic, pharmaceutic, and surgical. Surgery is therefore only one branch of therapeutics. We are not, then, justified in regarding the last science as the art of cure: there are diseases which it cannot cure; there are others which it should not cure; and among those which it cures, the honour of the cure frequently belongs to nature. Thus Baglivi commences his Praxeos with that beautiful homage to the autocracy of nature:—"Medicus naturæ minister et interpres quidquid faciat et ferat si natura non obtemperat naturæ non imperat."

We have sufficiently indicated the place which surgery occupies in medical science;—we have seen that it is really only a therapeutical agent. We may now seek to define what is its real object, and endeavour to place between it and medicine, boundaries which may distinguish, without separating them. We may define surgery to be the mechanical part of therapeutics: "quod in therapeia mecanicum." We do not resort to surgery until the insufficiency of dietetical and pharmaceutical means is demonstrated. It is not until all the resources of regimen, diet, and pharmaceutics, have been exhausted, that the assistance of surgery is invoked: it is the last, but the most efficacious. Of this Hippocrates was well assured when he composed Aphorism vi., section 8. "Quæ medicamenta non sanant, ferrum sanat; quæ ferrum non sanat, ignis sanat, et quæ ignis non sanat insanabilia." A plethoric person is me-

naced with apoplexy; a change of regimen and the administration of evacuants are too slow in their action: a surgical operation, bleeding, is necessary: it saves him. The same operation is the only efficacious remedy in acute visceral inflammation: diet and evacuants are not sufficiently prompt: the danger is too urgent. A limb is struck with gangrene by a contusion: it is impossible to employ hygienic means; pharmaceutical means are equally useless: the vital properties of the part are extinguished. Mechanical or surgical means can alone reduce a dislocation. In fact, all the means which surgery employs are mechanical. This division is so well founded in nature, that it may be strictly applied to points where the different parts of therapeutics seem to be confounded. Thus a phlegmon requires for its treatment the successive employment of diet, medicines, and surgery. The latter does not become necessary until after the termination of the disease, to make a way for the pus which fills the abscess which has succeeded to the phlegmon. Diet, diluents, topical applications, direct their action upon the vital properties, and serve to limit inflammatory action; surgical treatment is not necessary until after the abscess is formed. Surgery, therefore, does not constitute a science separate from medicine; it is only a means, the most powerful, it is true, and the most efficacious. In the middle of the eighteenth century, of that age regarded as the age of philosophy, the first surgeon of one of the French kings, Lapeyronie, proposed to a minister of the day to raise a wall of brass between medicine and surgery. The answer of the minister was admirable—"On which side would you place the patient?" Still, up to the present day, the common idea is, that these two parts of the same art are essentially different. We maintain, with Celsus, that the different parts of medicine are not susceptible of a rigorous separation, and that, in the division which religious prejudices effected, that portion of it is best which embraces the largest field:—"Atque ubi se diviserunt eum laudo qui quamplurimum percipit."—Præfat. lib. vii.

Since, then, surgery is only one of the elements of therapeutics, there can exist no true difference between the physician and the surgeon, which is not to the advantage of the latter. In fact, he possesses one means more than the physician to accomplish the cure of disease; the operation in his hands, is the complement, as it were, to the resources of therapeutics; it supplies by mechanical means, the insufficiency of regimen, aided by medicines. But unfortunately, to administer the succour of his art, which consists in a manual operation, many indispensable qualities are necessary, which are denied to the greater number; those qualities, as described by Celsus, you all know are contained in the seventh book, commencing with "Esse autem chirurgus debet adolescens." Unquestionably, of the qualities mentioned by Celsus the most desirable is *sang-froid*; it is more rare than address. Dexterity may be acquired by exercise: firmness of mind is a gift of nature. It was refused to Haller, upon whom so much was lavished; he says "Et si chirurgica cathedra per septem decem annos mihi coneredita fuit, et si etiam in cadaveribus difficillimus administrationes chirurgicus frequenter ostendi, non tamen unquam vivum hominem incidere, sustinui nimis ne nocerem veritus."—Bib. Chir. 1775, vol. 2, 4to.

Still he who is armed with a competent knowledge of anatomy does not hesitate to undertake the most difficult operations, especially if he have a perfect knowledge of the disease. Yet the habit of practising upon the dead body is a material assistance, in those operations which are performed according to prescribed rules. If, however, I may judge from my own experience, in a first operation, the shedding of blood, the cries of the patient, and the novelty of the situation, render it difficult to avoid a species of exeitement which I apprehend bears some analogy with that which a soldier experiences in the tumults of a battle and the aspect of the carnage. There can be no question that Heister was right in his dictum, that it is neither study, nor meditation, nor dispute, but practice, which makes the surgeon.

Surgery is not only the art of operating, though this may be the most brilliant part of it; the surgeon should know not only why, where, but how and when it is necessary to operate—should be perfectly aware of what it may be necessary to do before, during, and after the operation; he ought to use every means to render it unnecessary, and should not have recourse to it until every milder means has been exhausted. It is not, then, until the insufficiency of hygienic and pharmaceutical means be fully proved, that recourse should be had to surgical operation. All men, however, cannot perform great operations; this practice, which essentially constitutes the surgeon, supposes the exercise of the art in the hospitals of large towns; it is consequently the province of a comparatively small number of persons. Yet if all men have not the firmness of mind necessary to enable them to employ the knife and the fire upon the living body, for the purpose of obtaining cures which

have resisted other means—if the greater number want the opportunities to acquire it, as well as that dexterity which frequent practice gives—all should know, although they may be unable to execute, when it is necessary to have recourse to it.

It may be objected to my mode of viewing the subject, that to excel in all branches of medicine is very difficult; but then rules are laid down for the greater number, and a small number of exceptions, far from destroying, confirm them. We may also advantageously refer to the example of the ancients. Surgical genius is not incompatible with great knowledge of the other branches of medicine; the greatest masters are a proof of this; and among those whose particular tastes, or other circumstances, have removed them from the practice of operations, many have not only practised, but have taught the science of surgery.

The science and practice of surgery require of him who desires an honourable name, and distinguished professional rank, long sustained and well directed exertion. The ancient languages should be familiar to him, not only to enable him to master the works on medicine and surgery composed in those languages, but to enlarge his mind by meditating on the illustrious works of antiquity. The progress of science, and the great and general diffusion of knowledge, render an acquaintance with modern languages, physics, and natural history, essential elements of a liberal education; and it behoves the medical man—a member of a learned profession—so to cultivate literature and philosophy, as to maintain the position long conceded by public opinion to the professors of medicine. I would therefore strongly urge on the attention of all who hear me, that before attendance on medical lectures begins, considerable progress should be made in the studies I have recommended. If this preliminary knowledge be not acquired early in life, it is highly probable it will not be acquired at all; and if the time usually devoted to attendance on medical lectures be divided between professional and general studies, it is to be feared that, in the majority of cases, neither the professional nor the general knowledge will be mastered. Entering upon the study of medical science with the preparation I have recommended, your progress will be rapid if your devotion be earnest.

Although I do not propose to insist upon the general utility of the study of anatomy, which will be more ably done by my colleagues who have charge of that department, I will shew you, as succinctly as may be, instances in which modern surgeons have greatly profited by their superior cultivation of this, the only staple foundation of the knowledge of man. If we take the organs of the pelvis—thanks to the labours of Scarpa and others—we can now appreciate with almost mathematical exactness the advantages and inconveniences of the different modes of proceeding which have been adopted for the extraction of vesical calculus. By directing attention more strongly than had previously been done to the middle lobe of the prostate, Sir E. Home explained a frequent cause of retention of urine. By demonstrating that the curvatures of the urethra were less decided than had generally been supposed, Amussat paved the way for the more successful employment of straight instruments in the destruction of stone. Take the diseases of the eye, and the importance of *minute* anatomy is abundantly evident. The vascular texture of the iris induced Travers to suspect that it was the principal seat of those serious inflammations produced by syphilis; its presumed muscularity has served to explain the inefficiency of the simple transverse incision of the iris, imagined by Cheselden; at the same time this muscularity has served as a foundation for other modes of establishing artificial pupil. Is it not to the profound study of the smallest branches of the arterial system, whose resources up to nearly the end of the last century were comparatively unknown, that the present treatment of aneurism is owing? This was the foundation upon which Hunter built: before the discovery of the anastomosing system, who would have dared to tie the external iliac—an operation which, since 1796, has succeeded 50 times in 67 cases? It is anatomy which conducts the hand of the surgeon through parts the lesion of which might be dangerous or mortal. It is by anatomy in the last resort that we judge of methods of operating; it precedes experience, and indicates in what manner our organs may be most safely approached. It is anatomy which, when reverses come, unveils to the surgeon the sources of those reverses, and points to him the modifications to be introduced into an operation, if the reverses have attached to the mode of operating. Relations which anatomy had not at first revealed, serious accidents supervening upon surgical operations have shewn the importance of. Thus, it was not until the operation for strangulated crural hernia had been followed by numerous failures, that Arnaud, Richter, and Scarpa, discovered their source to be in the disposition of the spermatic cord and the epigastric artery with reference to the neck of the sac. These and many others are great and important innovations in surgical

science, attributable to an improved knowledge of the anatomy of the human body; but the importance of anatomy to the surgeon may be exaggerated, and observation and experience have not unfrequently contradicted assertions which have been based simply upon the structure of the parts. Thus the luxation of the femur backwards and downwards was regarded by Boyer as an impossibility, but has been many times observed. Many similar examples might be given, but they are unnecessary. We are bound to admit that the greatest discoveries have given rise to the most reprehensible abuses. I hold such an abuse to be the ablation of certain organs whose situation and texture should have afforded them protection. Of this number I class the attempt to remove the thyroid body; more than one patient has died either under the knife of the operator (Gooch, Klein, and others), or soon after; and even in those cases where the extirpation has been completed, such as the cases of Gooch, Hederus, Walther, and others, through how much pain and danger have those cures been accomplished, of a disease ordinarily supportable. In the same class I would place the attempts to extirpate the uterus. Whilst, therefore, I maintain that surgery has derived much of its glory from anatomy, I would urge upon you the necessity of a discreet and cautious application of anatomical knowledge to surgical science.

Those persons are ill informed who think that surgery is a readily acquired science; like medicine, it has its difficulties and uncertainties; as in medicine, success will not always follow skilful surgical practice; like medicine, it derives great assistance from investigations in pathological anatomy. If the knowledge of the anatomy of relation in the healthy state be necessary to enable the surgeon to perform operations upon healthy parts, the knowledge of the change of those relations by disease is not less indispensable to enable him to appreciate the best method of directing his instruments among parts which have contracted other relations. Who will dare to undertake an operation if he do not know with certainty the nature of the disease—its limits—its tendency, if it have any, to reproduction—its connexion, if there be any, with particular internal affections. What suggested to Dupuytren the method of curing artificial anus? Pathological anatomy. The examination of bones fractured by accident in man, or by design in brute animals, produced in the minds of Hunter and Scarpa the conviction that the callus is not simply an osseous piece, concreted by degrees, as was supposed by Haller and Dethleef. Look at the work of Sir A. Cooper, to learn what pathology has done for dislocations. Take the different varieties of cancer of the testicle, and we find that English surgeons have enabled us to distinguish between medullary and fungous disease; the former requiring castration, the latter only excision, of the fungus.

If by physiology we understand the natural or spontaneous phenomena of the organization, no branch of the art of cure should be more fruitful in discovery, or have a greater tendency to advance to the highest state of perfection the sciences of medicine and surgery. It is to observation, based upon physiology, that we owe the simplification of the method of treating wounds, and the proscription of unguents, plasters, and similar preparations, formerly so liberally used—that we owe union by the first intention, and the various modifications of treatment founded on it; and to this union we owe the science of grafting, at present so beneficially employed in the relief of many infirmities to which humanity is exposed. It is by physiology we explain why intestinal strangulation so seriously compromises life, and why it is so necessary at once to relieve it—whence the danger of aneurism, and how we may avert a fatal termination—whence, in certain cases, the sterility of women, and the impotence of man—how, by the powers of the uterus, the mother brings forth the fruit of her conception—and how, when danger is pressing, surgery may offer succour no less efficacious to the mother than the child.

Experimental physiology has rectified errors regarding the circulation: thus the experiments of Nysten proved peremptorily that a considerable quantity of air may be propelled into the venous system with impunity. It is no longer a single bubble which kills with the rapidity of lightning, as was supposed by Bichat. Thus certain of the risks gratuitously attributed to the opening of veins, and the ingress of air in surgical operations, fatal results can no longer be assigned to the penetration of air, and some other explanation must be found for those frightful syncopes which sometimes occur, and terminate alike the disease and the life of the patient. Other similar illustrations might be given, but our time does not admit of our adducing them.

Nothing is more difficult, at the same time nothing is more important in facilitating the acquirement of the science, than a good classification of diseases. But any system of the kind must, in the present state of our knowledge, be artificial and

arbitrary. We do not know enough of nature's laboratory to be acquainted with the laws which govern the development of disease. The ancients and the Arabs described disease *a capite ad calcem*. At the time of the revival of science five divisions of the body constituted the principle of classification; this system, to which Fabricius ab Aquapendente attached the name of Pentateuch, was far from embracing all diseases; in fact, besides tumors, wounds, ulcers, fractures, and luxations, there were many diseases which they were obliged to describe according to the anatomical order previously adopted. The vices of such a system are very obvious; the most fatiguing repetitions were necessary; and these repetitions occasioned the double inconvenience of uselessly prolonging the study, and introducing into it greater confusion. It might be compared to a geographical chart, in which the author did not content himself with inscribing objects a single time, but recorded them as many times as there were points of view from which they could be seen. Besides this, what was there in common between the tumors which they arranged in the same class? What should we say of a naturalist, who, in classing the different objects projecting upon the surface of the globe, should comprehend in the same division trees, mountains, and houses? And yet the bringing into the same class, abscesses, aneurisms, and cancerous tumors, is not a whit less heterogeneous. These diseases are essentially different, and have no other analogy than the tumefaction of the part in which they exist; in their nature they are most opposed, and as to treatment that which would be proper as applied to abscess, would be fatal applied to aneurism. The symptomatic method is not less objectionable. I would almost as soon adopt an alphabetical arrangement; it would not bring together more opposite conditions; in fact, abscess and aneurism would come together in this arrangement. However defective such bases of classification may be, they are very preferable to nosological systems, founded upon the consideration of causes, often unknown, uncertain, and obscure, of many diseases. The ancients seem to have been convinced that diseases could only be classified after a consideration of the affected part; but in describing them after regions of the body, they confounded all the objects of the anatomical methods. They had felt the utility, but they could not obtain the advantages of it, because the science which was to furnish them with a basis was not sufficiently advanced for them to use it. In the present day, when the tissues and organs of the human body are so well known, and that anatomical analysis is acquiring a precision approaching to the exact sciences, it is impossible to find a better base for classification than the distinction of the different apparatus. With these means, however, it is not probable that we shall ever attain in medicine even to such a degree of precision as has been introduced into botany. The morbid agent is too frequently concealed from our view, its duration is evanescent, its causes are uncertain, its nature is obscure; even pursuing the best method we cannot hope soon to arrive on a level with the other natural sciences. This will probably be a work of ages. After having founded their systems of classification upon a single part of a plant, sometimes on that of a corolla, like Tournefort, sometimes upon the sexual organs, like Linnæus, botanists of the present day prefer to take their characters from the consideration of all the parts of a plant, and class it after a greater number of relations. Medical men, after having successfully employed classifications based upon differences of seat, of cause, of symptom, and of treatment, seek, in the present day, a method more like that of botanists, embracing anatomical, etiological, symptomatic, and therapeutic relations.

I shall *first* consider those diseases which affect all organic tissues. Inflammation, suppuration, ulceration, mortification, scrofula, cancer, scorbutus, wounds.

Second, I shall consider the diseases of each tissue taken separately from the surface to the centre of the body.

Third, I shall consider the diseases of the several regions. In this way we shall have General Surgery, Surgery of the Tissues, and the Surgery of Regions.

It may be asked why I do not begin with wounds. The reason may not be a good one; *inflammation* is manifested after almost every wound; it is presented in the great majority of local diseases, either as concomitants, cause, symptom, consequence, or as a curative means. All these circumstances would seem to point out the first lecture as the proper place for inflammation. It may be useful also to show the student an example of the intimate union which exists between medicine and surgery; besides, if my reasons appear insufficient, I must shield myself under the cloak of universal usage.

Inflammation.—Nature; external characters; essential or anatomical characters; *results;* changes in the blood; ditto in the secretions; ditto in structure; summary; treatment.

Suppuration.—Definition; modes in which pus may be formed; its characters, phy-

sical, microscopical, chemical; diffused; circumscribed; constituting *abscess;* the progress of abscess; its treatment; *fistula;* nature; treatment; HECTIC FEVER.

ULCERATION.—Mode of production; *varieties;* common, indolent, inflammatory, sloughing, phagedænic; *granulation;* cicatrization.

Specific ulcers will be found under their particular causes.

MORTIFICATION. — Definition; in consequence of the cessation of the circulation, *from a mechanical cause—from debility; in consequence of the violent operation of mechanical or physical agents*—cold, heat, stimuli; in consequence of the *deleterious influence of certain poisons; natural to animals; consequences of disease in animals and in vegetables;* local and general symptoms of each; treatment.

SCROFULA.—Nature; causes; treatment.

CANCER. — Nature; varieties; anatomical characters; treatment.

SCORBUTUS.—Nature; causes; treatment.

WOUNDS: *Mechanical.*—Punctured, incised, contused, lacerated, non-suppurating, suppurating, GUN-SHOT; characters; treatment. Hæmorrhage; tetanus.

—— *Chemical.*—Effects of heat and cold; mineral acids; alkalies and salts; characters; treatment.

—— *Poisoned.*—Stings, bites of venomous animals, of rabid animals; dissection wounds; malignant pustule; hospital gangrene; characters; treatment.

DISEASES OF THE SKIN AND ITS APPENDAGES.—General principles of classification and treatment; exanthemata, vesiculæ, bullæ, pustulæ, papulæ, squamæ, tuberculæ, purpura, nævus, onychia, plica, warts, corns.

—— OF THE CELLULAR SYSTEM.—Phlegmon; furunculus; carbuncle; œdema; *tumors*, encysted or not.

INJURIES AND DISEASES OF THE ARTERIAL SYSTEM.—Wounds; hæmorrhage; treatment; inflammation; ossification; aneurism. History; treatment.

—— VENOUS SYSTEM.—Wounds; rupture; dilatation; varices; inflammation; nature; causes; treatment.

—— MUSCULAR SYSTEM.—Wounds; ruptures; contractions; *wry neck;* nature; history; treatment.

—— TENDINOUS SYSTEM. — Ruptures; wounds; section; ganglia.

—— FIBROUS SYSTEM.—Periostitis; pericarditis; nodes.

—— OSSEOUS SYSTEM. — Wounds; fractures; ostitis; caries; necrosis; exostosis; rachitis; fragility; mollities; spina ventosa; osteo-sarcoma; cancer.

—— ARTICULATING SYSTEM: *Mechanical Injuries.*—Wounds; contusions; inflammation without and within the capsule; dropsy; loose cartilages; ulceration; white swelling; ankylosis; *luxations* from mechanical violence; spontaneous; ARTIFICIAL JOINTS.

—— NERVOUS CENTRES: *Head.*—Wounds of scalp; fractures of cranium; concussion; compression; inflammation of meninges; ditto of the cerebral substance; hernia cerebri; fungus of the dura mater.

—— *Spine.*—Concussion; compression; luxation; fracture; inflammation of cord; caries; curvature, lateral, and Pott's; spina bifida.

—— NERVES.—Contusion; inflammation; neuralgia; sciatica; tubercles, or other tumors or cysts, developed in their substance.

—— FACE.—Wounds; contusions.

—— EYE AND ITS APPENDAGES.—Injuries and diseases of eyelids of lachrymal apparatus; conjunctivitis, acute, chronic, strumous, gonorrhœal, Egyptian, rheumatic; pterygium; *cornea;* inflammation; opacities; ulcers; staphyloma; iritis; retinitis; glaucoma; amaurosis; cataract; artificial pupil; malignant disease.

—— NOSE AND ITS SINUSES. — Hypertrophy; lupus; epistaxis; polypus; foreign bodies; ozena; *restoration. Sinuses* —Inflammation; dropsy; abscess; polypi; malignant tumors; foreign bodies.

—— DIGESTIVE APPARATUS. — Hare-lip; cleft palate; cancer of lip; teeth; salivary glands and their ducts; ranula; tumors and excrescences of gums; wounds; ulcers; cancer of tongue; tonsils; uvula; wounds; abscess; ulcerations of pharynx; foreign bodies; rupture; inflammation and stricture of œsophagus; œsophagotomy.

—— EAR: *External Ear.*—Imperforation; inflammation; polypus: foreign bodies. *Middle Ear.* — Inflammation; abscess; caries; puncture of tympanum; perforation of mastoid cells; catheterism of Eustachian tube.

—— THROAT AND RESPIRATORY ORGANS. —Cut throat; wounds of larynx and trachea; foreign bodies; laryngotomy; tracheotomy; tumors in the air-passages; bronchocele.

—— THORAX. — Wounds, penetrating or other; ditto implicating heart, great vessels, lungs; hæmorrhage; emphysema; empyema; paracentesis. MAMMA.—Inflammation of; abscess; tumors, malignant and other.

—— ABDOMEN. — Penetrating or other wounds; implicating intestines or other viscera; contusion with or without injury to viscus; abscess of liver or other viscus; hernia of various kinds; artificial anus; invagination.

—— URINARY ORGANS. — Kidneys; ure-

ters; bladder; prostate; urethra in man, and with the exception of the prostate in women. CALCULUS.

—— GENITAL ORGANS IN MAN AND WOMAN.—Syphilis; its history; its varied effects, complications, and consequences.

—— RECTUM AND ANUS.—Abscess; fistula; imperforation; prolapsus; hæmorrhoids; excrescences; polypus; fissure; stricture; cancer; foreign bodies.

A GENERAL CONSIDERATION OF THE OPERATIONS OF SURGERY.

The extent of a course of surgical lectures does not admit of our entering into discussions upon every occasion where it might be useful, nor to mention the authors of all the observations we may use. We can only engage in discussions on occasions when it is necessary to combat some error, or to express some new view. In the immensity of facts which must be brought together to seek the truth in any point of practice, I have employed only those of whose authenticity no doubt could fairly be entertained. Great care is clearly necessary in such cases, or we may be imposed upon by names or appearances. Men of great reputation, and writers of considerable authority, have said, if much scepticism were introduced into medicine, we should too far reduce the number of fundamental propositions; that the science would be destroyed. We think this a question which affects too nearly the interests of humanity to admit of a hasty decision. Still, if a general inventory demonstrated that we possessed only four incontestable truths, I should not hesitate to publish the results, and I should believe that by so doing I should be rendering essential service to science; in shewing that men had long been satisfied with base coin, which should be discarded, and in demonstrating that our efforts should be directed to substitute truth for error. If the fear of error causes naturalists, astronomers, and others, to regard all *facts* with so much jealousy, how does it happen that that jealousy and that circumspection are not equally necessary to the medical man? I think the medical man's *facts* should be quite as rigorously sifted, and he should not accept them, until they have been so frequently reproduced under the same essential circumstances, as to render the demonstration complete. Before the great revolution which chemistry experienced in the eighteenth century, the science scarcely existed; chemists, it is true, had raised a large mass of scaffolding composed mainly of vain chimeras. They had admitted probabilities where a little trouble would have given certainties—and how widely they diverged from their proper course! Men of sounder and vaster intellects came; they grasped this edifice, and it crumbled to dust, and disappeared; but the true science was substituted for it, founded upon a solid foundation—well-ascertained facts. This example we should steadily regard; we should learn how much the natural impatience of the human mind lays it open to error, with what facility it is perpetuated from age to age; years, and the credit of able men who have admitted them, giving to them a new and more irresistible authority. Medical truths are not easily acquired; the facts we have to study do not present either the simplicity or the uniformity of those in the domain of physics; they are variable and complicated: a small number of circumstances only have a character certain enough to fix the attention of an accurate observer; and much ability, patience, and caution, are necessary to avoid accepting a truth before the demonstration is complete. Long and profoundly impressed with these principles, without which science can never have a solid foundation, I have, as much as may be, made, or endeavoured to make, an inventory of what is best established in the healing art. I have not lightly decided on any question. I have not insisted upon those things which seem insufficiently demonstrated; I have not presented probabilities except as such, and I have left doubtful all which appeared to offer a consideration of the facts by which they are supported. It would be unjust to say that such a course was baneful—that it was an attempt to destroy a science because its foundations were not solid. We do not seek to change the face of the science we cultivate, but we believe it to be the duty of every man who respects himself, to point out errors if he have detected any; and to give to those who are able, opportunities of repairing defects, of filling up the lacunæ which may be pointed out. There are many errors accredited because they have been sanctioned by eminent men: they are extremely difficult to eradicate. To lay violent hands on such things may appear a violation or profanation to those who do not look beyond the surface, and who hold that time consecrates error. It is only by such means that our science can be elevated, and hold its proper place among its fellows.

CLINICAL LECTURES ON OPHTHALMIA.

By M. Velpeau.

Reported for this Journal, by
J. Henry Bennet, B.L. & B.S.
Sorbon.

Local treatment of acute iritis — Mercurial ointment— Belladonna — Various collyria — Puncture of the cornea, a dangerous expedient — Chronic iritis—Efficacy of issues— Synechia — Operation for the removal of this — Application of belladonna — Critical examination into and denial of the existence of catarrhal and various other specific forms of ophthalmia.

The influence which local treatment exercises over iritis is certainly slight—a fact which the deep-seated situation of the inflamed organ at once explains; I cannot, however, agree with M. Sichel in considering it to be decidedly prejudicial. In many instances I have seen the iritis itself benefited by the use of local remedies, and you are well aware that they are valuable therapeutic agents in the treatment of the inflammation of the cornea and of the conjunctiva which nearly always accompanies inflammation of the iris.

Local remedies may be divided into two classes. The first class comprises those which act directly on the iris; the second those which only act on the membrane through the medium of the circulation. In the first class we find the various mercurial, opiate, and belladonna ointments, the action of which we will now examine.

Although mercurial ointment has enjoyed, and still enjoys great reputation, it has never in my hands proved a valuable remedy. Indeed, I have so often employed it without deriving any benefit whatever from it, that I cannot now place much confidence in its efficacy. You ought early to become familiarized with the idea that a multitude of remedies employed by every practitioner, exercises, in reality, little or no influence over the disease against which they are directed; nor is it difficult to account for the apparent contradiction. In iritis, for instance, after some substance or other, say mercurial ointment, has been applied to the temples during several days, the inflammation disappears. It is at once inferred that it has given way to the application of the ointment. But in all probability some of the general measures which we have already detailed, such as general or local bleeding, have been simultaneously employed, and it then becomes difficult to decide whether the iritis has been cured by the mercurial ointment, or by the other remedies to which the medical practitioner has had recourse. We must also bear in mind the length of time the disease has already existed, when we wish to ascertain the value of a remedial agent which we have employed; because iritis, in this respect similar to all other inflammatory affections, does not last for ever, and may disappear after a certain lapse of time, although no treatment whatever has been directed against it.

When iritis is accompanied by severe pain, and it is considered advisable to guard against the contraction of the pupil, ointments containing opium and belladonna are indicated, the proportions for these ointments being one drachm of opium or belladonna to an ounce of hog's lard. Belladonna having a peculiar action on the pupil, has been much used in the treatment of iritis; we will therefore, devote a few moments to the examination of its value as a therapeutic agent in this disease. In the first stage of the malady, while the inflammation is still acute, belladonna should not be employed, as, instead of diminishing, it increases the inflammation. The action it then exercises over the iris may be compared to that of a remedy which would oblige an inflamed muscle to contract, in order to cure the inflammation. But when the inflammation has in a great measure subsided, and we have to fear, as sequelæ, permanent adhesions between the radiated fibres of the iris, or between the iris and the adjacent organs, belladonna is extremely useful, and will often, if judiciously employed, cause the destruction of any slight adhesions which may have formed. Among the various preparations of belladonna which are employed, there are one or two which, in my opinion, ought never to be used unless the inflammation has entirely disappeared. I cannot, for instance, understand how some practitioners can recommend the concentrated solution of belladonna to be instilled into the eye when the resolution is not complete. This solution is, in reality, an extremely irritating preparation, as is plainly seen if a few drops are introduced between the eyelids of a person whose eye is not inflamed:—the eye immediately becoming red and painful. It is not, moreover, necessary to employ it when the inflammation has not entirely subsided, as the iris may be easily acted upon either by frictions with belladonna ointment, or by giving some preparations of belladonna internally. The principal object we have in view in employing belladonna is to produce alternate contraction and dilatation of the iris, in order thereby to destroy the

adhesions that may exist. To accomplish this, certain precautions are necessary. Were the belladonna given every day, its action being slow and gradual, the adhesions would not be ruptured, but merely elongated. We are, therefore, much more likely to succeed if we give the belladonna every two or three days, by starts as it were, so as to cause the pupil to dilate suddenly.

Among the remedial agents which constitute the second class of local remedies, there are very few of any value. The various collyria of lead, iron, &c. are of little or no use, unless there be at the same time conjunctivitis or superficial keratitis. When, indeed, we consider that the surface on which they are applied is separated from the iris by the entire thickness of the cornea and by the aqueous humour, we cannot be surprised that they should exercise but little influence over the disease. As, however, collyria containing laudanum and belladonna sometimes appear beneficial, they may occasionally be employed. When they are resorted to, the eyelids should be bathed several times a day with the collyria, and if the inflammatory stage is passed, a few drops may be instilled into the eye.

When the various agents which I have enumerated do not appear to arrest the progress of the inflammation, there are other local remedies which may be tried, as they have been strongly recommended by some authors. I might name, for instance, the distilled water of the laurocerasus, in which cyanuret of mercury has been dissolved. This collyrium has been much used by M. Carron du Villards ; but on perusing what he has said on the subject, I do not find that there is any reason to suppose its efficacy to be greater than that of the laudanum or belladonna collyrium. I do not mean to say that the remedy is a bad one, but that its efficacy has not yet been satisfactorily demonstrated.

Before I conclude these remarks on the treatment of acute iritis, I must say a few words respecting a much more energetic remedy than those we have just examined ; I allude to puncture of the cornea. Many of you will probably be surprised to hear that such a measure should ever have been proposed against inflammation of the iris, yet not only has it been proposed, but also put into execution. Mr. Wardrop is, I believe, the inventor of this plan of treatment ; but since he introduced it into practice, it must have been frequently resorted to, as M. Weller speaks of the puncture of the cornea as of an operation generally adopted in acute iritis by practitioners. Mr. M'Gregor has practised the operation at least five-and-twenty times. M. Carron du Villards has often performed it; and an Italian surgeon says that he has punctured the cornea fifteen times on the same patient. The puncture of the cornea having therefore been so frequently resorted to in the treatment of acute iritis, I cannot pass it over in silence, especially as it is a measure which must be either decidedly beneficial or extremely dangerous.

Those who advise the cornea to be punctured in iritis, contend that the puncture evacuating the fluids which distend the eye, alleviates the acute pain felt by the patient, and that when the membranes of the eye are no longer distended, the inflammation is soon resolved. But I have not yet met with facts calculated to prove that such is really the case, and reasoning alone is not sufficient to establish the efficacy of a remedy in the treatment of disease. I have several times punctured the cornea in cases of iritis which presented some special indication, such as accumulation of pus in the anterior chamber, and in every instance the malady has been aggravated. The authors who have extolled this plan of treatment do not say under what circumstances they think it proper to resort to it, but merely state that it is a valuable remedy in iritis. But this is not sufficient : when a peculiar method of treatment is recommended, the precise indication for its use ought to be distinctly laid down. Even from the statements of those who have spoken the most highly of the operation, it would appear that it is not always unattended with danger, as we find that both Mr. Wardrop and Mr. M'Gregor have seen it followed by the disorganization of the cornea. In my opinion the puncture of the cornea in acute iritis is not a remedy, but a dangerous operation, much more to be dreaded than the disease against which it is directed.

Such are the principal remedial measures to which we can have recourse in the treatment of acute iritis. When they are judiciously and energetically employed from the very commencement of the disease, it generally yields in from six to twelve days. But when the iritis is accompanied by some other deep-seated lesion, such as retinitis, choroiditis, or disease of the vitreous humour, the result of the best directed treatment is far from being favourable.

Chronic Iritis.

Chronic iritis, considered as a primitive disease, has hitherto been but little studied, nor can we be surprised that this should be the case when we remember that most of the symptoms which characterize the acute form of the disease are absent, and that

consequently its existence must often pass unperceived. If, however, I may be guided by my own experience, I should be inclined to think that chronic iritis is, in reality, by no means an uncommon malady, and that several of those shades of amaurosis which are described under the name of *imperfect* amaurosis may be referred to this affection.

As one of the modes of termination of acute inflammation of the iris, chronic iritis has been frequently observed, and the peculiar characters which it then presents are so manifest that it may be easily recognised. When one eye only is affected, the colour of the iris of the inflamed eye is not the same as that of the one which remains healthy. If the eye is exposed to the light it becomes moist and watery. A sensation of uneasiness scarcely amounting to pain is felt in the orbit, and the sight is more or less disordered. On the anterior surface of the iris spots of various colours may be perceived. The pupil is more or less contracted, and appears to have partly lost its usual mobility; indeed sometimes it remains perfectly immoveable, assuming every imaginable shape. Sometimes also adhesion takes place between the pupillary circumference of the iris and the anterior surface of the crystalline lens. The transparency of the humours of the eye is often more or less impaired. The presence of these symptoms can scarcely leave any doubt in our minds as to the existence of chronic iritis, especially if they exist as a consequence of acute inflammation.

The prognosis of chronic iritis is generally unfavourable, the functions of the eye being seldom entirely restored even in the most successful cases.

The remedial agents likely to prove beneficial in the treatment of this affection are the same as those which are employed in the acute form of the disease, modified, however, in such a manner as to suit the chronic state of the inflammation. Thus purgatives and external revulsives are more especially indicated, whilst blood-letting, both general and local, should only be resorted to occasionally, and that with moderation. Issues are often advantageous, but I do not place them at the nape of the neck—the region generally chosen—as the sub-occipital fossa is better adapted for the application of such a remedy, from the quantity of cellulo-filamentous tissue which it contains. By judiciously combining these measures we sometimes may succeed in subduing chronic iritis, but in the majority of cases the most wisely ordained treatment fails to effect a cure.

Synechia, both anterior and posterior, is a frequent symptom in chronic iritis. The remedies which have been recommended against this form of adhesion of the iris may be divided into two classes, the surgical and the pharmaceutical. Some practitioners have proposed to destroy the adhesions by means of a needle introduced into the posterior chamber, through the sclerotica in posterior synechia, and into the anterior chamber through the cornea in anterior synechia. The operation is by no means difficult to perform, it is true, but it exposes the healthy parts of the iris to be lacerated or separated from their attachments, and may give rise to serious inflammation of the other membranes of the eye. We must also bear in mind that even when the adhesions have been destroyed, they may be reproduced the following day. Prudence, therefore, forbids our adopting so uncertain a plan of treatment, especially as less dangerous measures will sometimes suffice. Thus, the administration of belladonna may, by causing the pupil to dilate, occasion the rupture of the adhesions. But as I expatiated at some length on the efficacy of belladonna given in cases of synechia, when I spoke of the treatment of acute iritis, I shall not say any thing further on the subject. You must not, however, forget that when these remedies are employed, the treatment must be conducted in such a manner as to cause abrupt and not gradual dilatation of the pupil. The following is the plan I generally adopt:—I dilute a few grains of the extract of belladonna in a tea-spoonful of water, and instil two or three drops into the eye night and morning. I then allow it to rest for two or three days, until the pupil has returned to its natural state, when I again instil the solution of belladonna. I must once more remind you that I never use the solution unless the eye is perfectly free from inflammation. If a certain degree of inflammation still exists, I have recourse to frictions round the orbits with belladonna ointment, or I give it internally. By basing my practice on these principles I have sometimes successfully treated cases of chronic iritis accompanied by synechia.

Specific Ophthalmia.

I have hitherto, in the course of these lectures, avoided employing the epithets which ophthalmologists generally join to the real name of the various inflammatory affections of the eye, as I wished first to make known to you my own opinions respecting this class of diseases. Now, however, that we understand each other—now that I have fully explained the peculiar views which I entertain—we are prepared to discuss the question of the existence or non-existence of specific ophthalmia.

Before I enter into the examination

of this interesting question, I think it is necessary to state, once for all, that in what I am about to say I have not the slightest intention to be personal. I know too well that science has nothing to gain from personal quarrels to wish to engage in them. When, therefore, I mention names, which I shall occasionally be obliged to do, I wish it to be understood that I have merely in view the opinions professed by those to whom I allude. I consider it my duty to attack doctrines which I look upon as erroneous, even should I by so doing incur the displeasure of persons who may be rather too susceptible. Such, indeed, is the conduct which all true friends to the advancement of science ought to follow.

It is of much greater importance than is generally believed to determine whether the inflammatory affections of the eye are or are not of a specific nature. Ophthalmologists of the German school recognize a great number of specific forms of inflammation, the existence of which resting, in my opinion, on theoretical ideas, and not on an accurate and attentive study of nature. I feel myself called upon to do all in my power to prove the falsity of their views; the more so as the elimination of so extensive a class of diseases would evidently tend much to simplify ophthalmology. I do not for a moment doubt that the state of the constitution, or a special affection, may exercise more or less influence over diseases of the eye, for this is a fact which is proved in the most satisfactory manner by daily experience; why, indeed, should the eye be shielded from such influence more than any other organ? I merely assert, convinced as I am by an immense number of facts of the truth of my opinions, that it is absolutely false to say that diseases of the eye assume peculiar anatomical characters because the patient is under the influence of a peculiar general affection, and that we may judge of the constitution of a person labouring under ophthalmia from the peculiar symptoms which that ophthalmia presents. Were this doctrine the expression of facts, and capable of demonstration, or in other words, were not the different specific forms of ophthalmia which have been denominated *catarrhal*, *rheumatic*, *scrofulous*, *venous*, &c. mere creations of the imagination of those who describe them, we should necessarily meet with symptoms which would distinguish them from the simple inflammatory affections of the eye. But a conscientious and attentive examination of nature will shew us that such is not in reality the case; indeed, I have frequently, as most of you must acknowledge, given, at the bedside of the patient, the most irrefragable evidence of the non-existence of these peculiar symptoms. I therefore feel authorised to give it as my decided opinion that the various specific forms of ophthalmia, about which so much has been said by the German school, and which are so strenuously defended by those who endeavour to propagate the ideas of Beer among us, do not exist, and ought not consequently to be admitted among the inflammatory diseases by which the eye may be attacked. I must, however, except from this general condemnation syphilitic ophthalmia, a class of diseases which may certainly be looked upon as specific. In order to convince you that I view in a proper light the question that is before us, we will attentively examine the symptoms which are attributed to each of these supposed specific affections.

It is scarcely necessary in the present state of science to allude to those forms of ophthalmia to which the epithets of *variolous*, *dartrous*, *hemorrhoidal*, *menstrual*, *abdominal*, &c. have been given. You must all perceive how absurd, how rediculous even, it would be to recognize them. Were we to do so we should also be obliged to recognize cardiac, intestinal, meningeal ophthalmia, indeed as many forms of inflammation of the eye as there are diseases. I intend, therefore, merely to speak of those specific affections on which the greatest stress is laid by my opponents, viz. *catarrhal*, *arthritic*, *rheumatic*, *scrofulous*, and *syphilitical* ophthalmia. That we may proceed with order in this discussion, we will first carefully examine the descriptions which authors give of these affections, and then, by establishing a parellel between the symptoms, which are attributed to them, and those which the simple ophthalmia offer, we shall easily discover on which side lies the truth. At the same time we must remember that for a morbid affection of a tissue to be separated from all other affections which may occur in that tissue, for it to be considered a special disease, something peculiar must necessarily be found in its symptoms, its progress, its treatment; in a word, it must have, as it were, a separate existence. Otherwise pathology would be an inextricable labyrinth.

M. Sichel being with us the representative of the doctrines which I now oppose, it is in his own work that I shall take the description of the symptoms which are supposed to characterize specific ophthalmia. This interesting and important question deserves much greater development than I shall now be able to give to it; yet, however brief I may be, I feel certain that what I am about to say will prove sufficient to convince those who lis-

ten to me without any feeling of prejudice, especially if they have followed my visits in the wards, and examined along with me the numerous cases we have received and treated this year.

Catarrhal Ophthalmia.

The seat of this affection is said to be the mucous membrane of the eye—the conjunctiva. The following are the symptoms by which it is supposed to be characterized:—At first the patient complains of slight itching of the eyes, especially of the inner canthus; the eyelids feel rather stiff, and a little mucus collects in the morning at the inner angle of the eye, and sometimes on the free edges of the palpebræ. At the same time the palpebral conjunctiva begins to present the catarrhal form of vascularization, that is, it appears of a rosy hue, and the vessels which it contains form parallel streaks which pass from the free to the attached margin of the eyelids, and lose themselves in that portion of the conjunctiva which covers the sclerotica. Before we go any further, I must ask every attentive and impartial observer if he can discover in these symptoms any thing more than the first stage of mucous or glandular blepharitis; and if, on the other hand, the symptoms of the latter disease are modified when the patient is under the influence of a catarrhal affection? But, to continue. The vascular streaks, which I have just mentioned soon become more numerous; they are sometimes parallel, sometimes interlaced so as to form an irregular network. The entire palpebral conjunctiva becomes of a yellowish vermilion red colour, and the vascularization, extending to the ocular conjunctiva, assumes a peculiar aspect "pathognomonic of the catarrhal affection." The injected vessels are of a pale red colour; they are nearly parallel to one another, and, following a slightly tortuous direction as they pass on from the circumference of the conjunctiva towards the cornea, become gradually smaller until they terminate at the distance of a line or two from that membrane. The conjunctival redness is, therefore, always separated from the cornea by a white zone, which is formed by the portion of the mucous membrane that has remained healthy. There is neither photophobia nor epiphora. The secretion of mucus becoming gradually more abundant, it concretes during sleep on the free margin of the eyelids, and at the inner canthus, so as to form crusts, which the patients easily rub off in the morning. In the majority of cases the palpebral conjunctiva is covered with granulations of variable size. The pain which the patients feel is superficial, and is compared by them to that sensation that fine sand would produce were it interposed between the palpebræ and the eye. This symptom is generally more intense towards evening than at any other time, especially if the patient attempts to work by artificial light.

In what authors call the third stage of the disease the injected conjunctival vessels are more numerous, of a larger size, and advance as far as the circumference of the cornea; then it is that we meet with all the varieties of chemosis.

Such are the principal symptoms which are attributed to "catarrhal ophthalmia." If you will take the trouble to compare them with those which I described when speaking of the various forms of blepharitis and conjunctivitis, you will at once see that the morbid phenomena are the same, and that the existence of these symptoms may be accounted for in the most satisfactory manner without its being necessary to have recourse to the supposition of a special affection. If any of you still entertain doubts respecting the identity of these symptoms, I would advise them to examine, with M. Sichel's book in their hands, several cases of blepharitis and conjunctivitis that we have now in our wards. They will find that whether the patient be labouring under a catarrhal affection or not, the same group of symptoms is present, and that the only modifications which they offer are those which are caused by the variable intensity of the inflammation.

With regard to the treatment of catarrhal ophthalmia, if you will compare the remedies which are recommended against it with those which you have seen me employ in the different forms of blepharitis and conjunctivitis, you will find that there is but little difference. Experience has, however, shewn me that these opinions respecting the specific nature of a disease which is purely inflammatory, tend, to a certain extent, to give a wrong direction to the treatment. Those, for instance, who follow the doctrines of the German school, employ, against the symptoms which I have just enumerated, general agents, such as blood-letting, external revulsions, &c., although such measures are not often indicated. The most efficacious plan of treatment in these affections is the application of topical astringents on the inflamed surface. I do not, however, mean to say that blood-letting, both general and local, should be entirely laid aside; I am, on the contrary, fully aware that it is often extremely useful, and sometimes even necessary.

To conclude, as the form of ophthalmia to which the name of catarrhal has been given, offers the same symptoms, follows the same course, and requires the same

treatment as the various forms of blepharitis and of conjunctivitis which we examined some time ago, I cannot see why it should be recognised as a separate disease. Ophthalmology is certainly a sufficiently complicated branch of pathology, without our endeavouring to render it still more so by describing imaginary diseases, for such in my opinion is catarrhal ophthalmia.

ON SIPHILIS.

By Herbert Mayo, F.R.S.

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[Continued from page 156.]

[*For the London Medical Gazette.*]

Forms of primary siphilitic disease in which mercury is prejudicial or useless—Varieties and treatment of ulcerative phagedæna — Varieties and treatment of sloughing phagedæna — Subject of chancre commenced—Comparison of chancre with common ulcers.

II. Phagedæna.

The diseases comprehended under the second head of primary local affections, that are liable to be followed by constitutional lues in one or other of its forms, are ulcerative and sloughing phagedæna. They are distinguished by salient differences from other venereal sores; in appearance they are unlike them, and they are generally made worse by mercury. In these facts there is enough to give plausibility to the hypothesis of Dr. Adams, that phagedæna and chancre are produced by different morbid poisons. One is, however, justified in withholding his assent to this opinion, and in waiting for further evidence, by what is known of the influence of the condition of the system in imparting to common ulcers of other parts a spreading and sloughing character. It is through a careful review of all the phenomena presented by both diseases that the true solution of the question can alone be obtained. The inclination of my own opinion, determined by facts which have afterwards to be mentioned; I have already expressed. I believe venereal phagedænic sores to arise from the common poison of siphilis infecting persons of a certain peculiarity of habit, combined or not with a local predisposition to that form of sore.

Ulcerative and sloughing phagedæna (setting aside the milder cases of the former) agree in this, that they have a tendency to produce rapid and extensive destruction of parts. Each, however, acts by its own process, that, namely, from which its special name is taken. Nevertheless, the worst cases of ulcerative phagedæna are commonly attended with partial sloughing; and cases that begin with sloughing occasionally progress by ulceration.

1. *Ulcerative phagedæna* commonly attacks the glans, beginning with inflammatory tumefaction and excoriation of some part of its surface. The ulcer soon assumes the following definite character, which is the same whether it eat deep or superficially—whether it is excavated or level. The surface is soft and yellow, with a few minute points of vascular texture, or of clotted blood, pushing through it. The edge is essentially irregular. The surface of the adjoining skin is of a more or less bright red, up to the border of the ulcer, so that the colour of the latter and of the integument are in strong contrast. The parts around the ulcer are tumefied, but soft. The distance to which the inflammatory swelling and redness extend is variable; sometimes it is limited to the integument immediately bordering the ulcer; sometimes it involves the entire penis.

In the mildest cases, and in the more serious as the disease becomes mitigated, the character given above is often manifested on one side only of the ulcer, and there most strongly at the edge. The other half of the ulcer and edge may have already granulated, and the latter even may be cicatrizing.

An essential character of this disease is its capriciousness. After improving, or being suspended, or even after cicatrization, the ulcerative process will often recommence. The following are accidental features in it:—Sometimes the ulcer opens a small artery, and considerable hæmorrhage ensues; this, as it will be presently shewn, may be salutary. If it threaten to be excessive, or if the patient is weak, and unable to bear the loss of blood, the hæmorrhage can be stopped by cauterizing the bleeding point.

When the ulcer invades both the glans and prepuce, it destroys the former more quickly than the latter. But

it is liable to spread with yet more rapidity in the cellular membrane, between the integument and penis. Mr. Babington, in his valuable notes to Mr. Palmer's edition of Hunter's works, has very faithfully described this incident in the disease. "The ulcer burrows between the body and the skin of the penis, dissecting in its course the corpora cavernosa from the integuments, and creeping upwards from these parts often as far as the os pubis. Under these circumstances the bottom of the sore cannot be fully exposed, and the part which is within view is generally clean, and sometimes slowly healing; while the portion which is concealed is foul and yellow, and secretes larger quantities of a thin brownish discharge. This spreading edge is attended by the usual tumefaction, which may be felt externally as a hard ring encircling the body of the penis, marking the distance to which the sore has extended, and in the progress of the complaint extending nearer and nearer to the root of the penis. As long as this thickened edge is to be felt, so long the sore is spreading. If the bottom of the sore cleans and tends to heal, the improvement may be known by the subsidence of the thickening, as immediately and as certainly as if the whole of the surface were exposed to view."

When the ulcer happens to be thus spreading along the surface of the corpus spongiosum, it is liable to eat through its substance, making an opening into the urethra, which it is afterwards extremely difficult, if not impossible, to close.

In cases where the disease coexists with phimosis, it is masked by the latter, or the case is identified generically only as one of inflammatory phimosis, which may depend upon either of several causes. If, however, on examining the glans through the inflamed skin, there are one or more parts tender and sore on pressure, it may be presumed that the cause is some form of ulceration. Now if the inflammatory tumefaction is inconsiderable, and the soreness trivial and limited in extent, it is necessary only to enjoin rest, with cooling medicine and abstinence, trusting to these means, with frequent syringing with warm milk and water, and cold or tepid bathing to the part, so to reduce the tumefaction that the foreskin may be drawn back, and the sore disclosed. If, on the other hand, the prepuce is greatly swollen and red, and there is much inward soreness, and much thin sanious discharge from beneath the prepuce, the case admits of no delay, and the prepuce should be freely divided, either at the upper part, or laterally if the soreness is to one side. In such cases the division of the prepuce is salutary in several ways; and without it the part will slough.

Practically, ulcerative phagedæna may be said to be of two kinds, the virulent and the benign.

The virulent kind, again, occurs with either of two opposite characters. In a person of a vigorous constitution it is likely to be attended with inflammatory swelling of the part, heat of skin, white tongue, frequent and hard pulse.

In a person of broken constitution there may be equally or more rapidly destructive ulceration, with little attendant inflammation, the pulse being frequent and feeble, the countenance anxious, the bearing of the patient nervous and agitated.

It is obvious that the same method of treatment is not applicable to the two.

In the first case venesection to sixteen or twenty ounces, aperient medicine, abstinence, and remaining in the horizontal posture, are the appropriate general remedies. The best local remedies are those that are most soothing; either lint applied kept moist with a solution of opium in water, or a saturnine and opiate lotion, or a bread poultice. These means being used; in twenty-four hours the ulcerative process will often have stopped, and an approach to a healthier character have commenced. Sometimes it is necessary to repeat the bleeding on the next day, or that following. In cases where the disease is discovered on slitting up the prepuce for phimosis, sufficient blood often flows from the vessels of the divided foreskin. If when the inflammatory or plethoric state of the habit has been thus removed, and the patient is cool in body, the pulse tranquillized, the local inflammation lessened, the phagedæna continue, the practice to be pursued is still alternative, depending on the exact condition of the ulcer; if this is still spreading destructively, its surface is to be destroyed by the application of nitric acid. A single application is commonly sufficient. The other method consists in the application of different stimulants. These, which will be named in treating of benign phagedæna, are to be resorted

to if the disease becomes of that character, indolent, and indestructive.

In virulent ulcerative phagedæna in an asthenic habit, bark and wine, with opium at night, are the appropriate general means; the local resource is the application of nitric acid.

The milder form of ulcerative phagedæna is particularly intractable; but its ravages are inconsiderable, the spread of the ulcer being slow, sometimes burrowing, but for the most part superficial. In some cases the ulcer may be seen occupying part of the glans and the adjoining part of the prepuce; the glans and prepuce being red and swollen, the ulcer at one part advancing, at another granulating and cicatrizing, appearing deeper than it is from the surrounding tumefaction. Sometimes it spreads over one half of the glans alone, as a shallow serpiginous ulcer, which one is only justified in associating with the graver forms of phagedæna above described, by its corresponding exactly in appearance (although on an humble scale) with them, by its improving under the same remedies, and generally being worse for mercury, and by the existence of every intervening gradation.

For the treatment of the milder forms of phagedænic ulcer, there are to be recommended, as general means, good air, nourishing diet, with wine or porter, (the system being in good order and the body cool,) and, in addition, bark with nitric acid, or small doses of the iodide of potassium in decoction of sarsaparilla. Locally, nitric acid is again the most efficient application; but it is useless re-applying this painful remedy, when the character of the ulcer returns as often as it is destroyed. Then stimulants are to be employed, the best of which is the Peruvian balsam; and, next, a solution of nitrate of silver. But every remedy of these classes commonly has to be tried in succession, or alternately with lint and simple ointment; the mere change of application seems beneficial.

I have said nothing of the period which intervenes between exposure to infection and the appearance of this disease, as less is known upon this point in reference to phagedæna than to chancre, and the intervals observed by both are probably the same. I likewise postpone the subject of bubo till the same opportunity, the complaint being a rarer attendant on phagedænic ulceration than on chancre.

2. *Sloughing phagedæna.*—Sloughing phagedæna, when produced by the irritation of the venereal poison, does not differ in any respect from phagedænic sloughing produced by other causes. In inquiring into the nature and treatment of the disease, we may, therefore, lose sight of siphilis, and look only to the general theory of mortification. Mortification is the death of a portion of a living body through the cessation of the circulation in it, and is so distinguished from the death of a part caused by chemical destruction of its organization. But mortification may be either determinate, as when a tumor mortifies upon the applicationof a ligature; or it may be progressive, when terms the gangrene, sphacelus, sloughing, are used to denote it. There are further differences to be followed out under these heads. Progressive mortification may suddenly invade a large part, the extinction of life in which is gradual, and marked by the gradual alteration of sensibility, warmth, colour,—which form of progressive mortification is expressed by the terms gangrene and sphacelus. Or the part invaded may be of small extent, when the term sloughing is commonly used. And, finally, the mortification may spread by superficies alone, layer after layer of inconsiderable thickness successively mortifying. The term phagedænic sloughing particularly expresses the last shade of difference.

Progressive mortification, again, may depend (omitting mention of others) upon either of two causes: it may be produced by a high degree of inflammation, especially when that inflammation supervenes upon parts previously irritated; secondly, however originally excited, it may be maintained, independently of any other cause, by the contact of the part last mortified with the living and healthy part with which it is in continuity.

Sloughing phagedæna exemplies both of these forms, of which the first constitutes the least serious case. It supposes some sore existing, a chancre or other ulcer, and an inflammatory habit, — inflammation superinduced upon the sores, and the sores sloughing. This case has to be treated like the inflammatory kind of virulent phagedænic ulcer. Blood is to be taken freely, soothing remedies locally applied, and a strictly antiphlogistic regimen pursued. The case already given from Dr. Fergusson's paper, at page 154

of the former communication, sufficiently shews the advantage of this practice in inflammatory sloughing phagedæna, the consequences of neglecting which are exemplified in the following case narrated by Mr. Rose:—T. Clarke, aged 21, of a full habit of body, was admitted into the Coldstream Hospital with six or eight deep irritable sores on his internal prepuce: the surface of these was covered with a dark-coloured slough; they had thickened and highly-inflamed margins, and discharged a very acrid ichor. He complained of much headache and thirst; had a quick pulse, and other febrile symptoms. The sores had been present three days, and were perceived a week after a suspicious connexion: the glands in each groin were enlarged. He was ordered a brisk dose of jalap and cream of tartar, six grains of antimonial powder, and a small dose of Epsom salts every four hours. A cold cataplasm was applied to the part. On the following days the febrile symptoms were much increased. He had restless nights; frequent cold chills; much headache; and a constant, irritable cough. His tongue was covered with a white fur; his pulse was quick, and not easily compressed; and his skin hot and dry. He had much pain in the sores, which were rapidly extending and running into one another; a dark-coloured inflammation surrounded them, which terminated immediately in gangrene. [*At this period, looking back at the history of the case, it is evident he should have been freely blooded*] He had been freely purged: the cold lotion was laid aside, and the decoction of poppies used as a fomentation. On the third day the sloughing had extended, and a considerable portion of the corona glandis was destroyed: a hæmorrhage took place from it this morning, by which he lost a pint of blood; the artery was tied. Equal parts of balsam of sulphur and oil of turpentine were applied to the sore, and the cold lotion was again had recourse to. The following day the sloughs had no disposition to separate; and on the body of the glans, anterior to the margin of the sore, several dark-coloured spots had shewn themselves. He had violent burning pain in the glans; his face was flushed; his tongue covered with a brown fur; and his pulse 102. The day after he had two returns of hæmorrhage, but not to a great extent; he was somewhat less feverish, but weaker. The prepuce was slit open, the sore dressed with compound tincture of benzoin, and a fermenting poultice applied over it. He was ordered beef-tea, ammonia, and Dover's powder, at night. The next twenty-four hours the burning pain was relieved, and nothing recurred to interfere with his recovery.

In the second form of sloughing phagedæna, the inflammation which may have helped to convert a sore of ordinary character into gangrene, plays no further part: there is but the sloughy surface, either black and dry, a crust of superficial mortification, or a moist ashen layer of dead tissue, which keeps separating in soft flocculi and putrid sheds, the skin shewing a narrow livid line of gangrene, which keeps its pace with the separation of the slough. The following cases, by Mr. Lawrence, exemplify some of the features of the disease:—

"Louisa Gardner, aged 18, for the last three weeks had been in the streets, drinking and living in continual indiscriminate prostitution. She had been diseased for a fortnight, at first slightly, but more seriously for the last few days. During the latter period pimples had arisen on the labium, had become red and painful, and then spread into a large sore, which had increased rapidly, with some pain, entirely depriving her of rest. At the time of admission, the external organs generally were red, swelled, excoriated, and superficially ulcerated; and there was copious discharge from the vagina. On the left labium and the neighbouring part of the mons veneris, where the parts were swelled but not reddened, there was a sloughing phagedænic sore, three inches long by one in breadth, which had attained that size in the last three or four days. The surface, which was excavated and disorganized, reddish, greyish, blackish, and bloody at various points, and bounded by a sharp, ragged edge, afforded a copious, ichorous, and offensive discharge. Excepting that the severe pain had impaired the appetite and rest, the general health was undisturbed. The appearance and expression of the countenance were those of a healthy young person."

"John Reed, aged 32, a sea-faring man, who had been much in hot climates, and suffered considerably from intemperance and illness, had lately returned

to England, and been more intemperate than usual. Three weeks previously he contracted venereal disease: sores appeared on the prepuce, and excoriation was observed on the scrotum and inside of the thigh. The latter had increased in extent for a week, when a portion near the centre began to look black, and to be extremely painful. He was brought to the hospital in the night (the third after the commencement of the phagedæna) in a state of great agitation and alarm, with involuntary tremulous movement of the extremities: 40 minims of laudanum were administered, but did not procure sleep, and he endeavoured to leave the ward under apprehensions of what might be done for his complaints. There were four sores at the base of the prepuce — a larger, with an indurated base, and three smaller, all in a favourable state. The outer side of the scrotum, and the corresponding surface of the thigh, were bright red. In the middle of the fold, between these parts, there was an ulcerated opening, as large as a crown-piece, three-quarters of an inch in depth, with an irregular black surface, and an abundant fœtid discharge."

The illustration of the forms of the disease would be incomplete without the following sketch from a case by Mr. Carmichael:—A gentleman, who was familiar with the venereal disease in his own person, was alarmed five days after a suspicious connexion at the appearance of a small pimple on the prepuce. Without further delay, he pinched up the part of the prepuce on which the pimple was situated, and snipped it off with a pair of scissors. The wound healed like a common sore, but he observed that the cicatrix was tender, and of a deeper colour than the surrounding skin. A month after this operation, while the cicatrix was still tender, he was again exposed to infection. The day afterwards, an unpleasant sensation induced him to examine the penis, when he perceived on the cicatrix a dark and gangrened spot, without any surrounding induration or inflammation. In four days the blackness had increased, attended with inflammation of the surrounding parts, and a disposition to phymosis. This accident, indeed, followed with considerable sloughing, aggravated by the use of mercury, which the patient insisted upon taking. The case eventually did well, but not without the appearance of a new slough, and that succeeded by obstinate phagedenic ulceration.

The treatment of this formidable malady is extremely simple, and uniformly successful, if resorted to early. It consists in the application of nitric acid to the gangrenous surface. If this is sufficiently done, the acid, penetrating the slough, destroys the surface about to mortify, and with that extinguishes the gangrene. A poultice to separate the eschar, opium to allay pain, with what tonics and stimulants may be requisite, constitute the rest of the treatment. The patient's chance of recovery most depends upon the small extent of surface occupied by the disease; for example, the penis having sloughed, if the phagedena has not yet spread over the pubes, and the patient has stamina left, his life will generally be preserved.

III. Of Chancre.

Under this head may be comprehended the various forms of ordinary siphilitic sores, or of those which are most certainly the result of siphilitic infection, and most frequently give rise to constitutional lues. The study of this class of sores is encumbered with difficulties which do not present themselves in the study of phagedæna. There is, it is true, a doubt as to the source of the phagedænic disease, and an uncertainty as to its secondary effects upon the constitution, greater both, perhaps, than attach to the parallel questions in chancre. But there is no difficulty as to the diagnosis or treatment of phagedæna; the features of each form of the disease being distinctly marked, and the practice to be pursued being deducible from the ordinary principles of surgery. In chancre, on the other hand, the local appearances do not differ from those which may arise from common inflammation: and if the opinion of surgeons throughout the civilized world were taken, it would probably be found to be pretty equally divided as to whether or not a specific treatment is requisite. The practical difficulty, however, to which I advert, will find a place for consideration afterwards; at present we shall have enough to do with that which attends the diagnosis of chancre.

In a case where a distinction is to be drawn between two diseases the appearances of which present no essential points of difference, it may be of use

to commence with examining the commoner and the easier one. Nothing is more frequent than the occurrence of a pustule and ulcer through simple inflammation; as, for instance, upon the legs of young or middle-aged persons, whose health has become deranged. In such a case, a succession of ulcers may be seen to form; the phenomena attending the production of each of which are these:—A patch of inflamed skin is seen, in the middle of which there is a small circular area of white epidermis; an appearance arising from the latter being detached from the cutis by effused lymph. In a day or two, the spot of separated epidermis is larger, is slightly elevated, and pus is contained below it. The cuticle breaking, a shallow circular ulcer is seen, the surface of which is covered by unorganized or imperfectly organized lymph. The ulcer enlarges, its figure continues circular, the tissue forming its border is more or less red and inflamed, condensed, and thickened. The surface is more or less excavated, and exhibits no granulations*.

Now if we look for points in the appearance of a chancre, whereby essentially to distinguish it from these or other common sores, it must be admitted that there are none. Chancre can but be described as *an ulcer more or less circular, without granulations.* But it is to be added, that a chancre *is a small ulcer;* and when we inquire as to its increase, we discover that *it enlarges slowly, and has a tendency to preserve one appearance.* The latter features alone are those which enable a surgeon to discriminate chancre from many ulcers on the genital organs that are merely of inflammatory origin. An ulcer, for example, formed by herpes præputiales, may, if irritated, or even from mere neglect, assume exactly the appearance of a chancre; but in three or four days, with proper treatment, its suspicious character becomes changed for that of a healing sore. If it is not so changed, nothing can remove the probability (derived from its place, appearance, and permanency of character) of the sore being chancre, or lessen it, except contravening circumstances in the history of the case: and, in a certain number of instances, a surgeon must inevitably be occasionally in error, and consider a sore siphilitic when it is not; as I have already shewn that he must occasionally pass over, and treat as common sore, ulcers looking like common sores, through which the venereal virus is finding entrance into the system.

I have thus carefully arrayed the difficulties which present themselves in the diagnosis of chancre, as the best means of combating them. With the qualified certainty which is consistent with the existence of these sources of error, I shall now proceed to describe the varieties of chancre, under the heads of indurated chancre, and chancre with little or no induration. I should premise, that I view the numerous shades of difference, which will be found to present themselves under these heads, as accidental only: nor should it appear surprising that so much variety, referable to accident, should present itself here. It is certain, as I have already exemplified, that the siphilitic poison may be introduced through a sore having the appearance of a common excoriation. It is likewise certain that the absorption of the poison may be attended by great local inflammatory irritation. It is, therefore, not wonderful that intermediate degrees, including all the varieties and effects of inflammatory ulcerative action, should occasionally manifest themselves. It is more surprising, all things considered, that so much uniformity and consistency should be observable as practically obtain.

I am, indeed, half afraid of indulging in the minuteness of description, upon which I shall yet venture, when the diversities presented have this unessential character. At the same time, unless the most minute examination is gone into, we can have no confidence that a really important feature may not have been overlooked; and if the subject is to be reduced to greater simplicity and certainty, it can only be through generalizations made upon a number of precise and minute details of this nature.

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* The last is an expression which it may prevent mistakes to explain. Ulceration without granulations and with no secretions adhering to the surface is seen in the cartilage of joints; and I once saw an ulcer on the instep of an old man with ossified arteries, where all the parts exposed by the absorptive process had their natural appearance; but in general, surfaces made by ulceration are covered with a layer of effused lymph, or gelatinous and adherent secretion. This effusion, properly organized, constitutes granulations. When it is not organized, or imperfectly so, the ulcer is said to want granulations.

CONTRIBUTIONS

TO

DESCRIPTIVE ANATOMY.

By Robert Knox, M.D.

[Continued from p. 102.]

[*For the London Medical Gazette.*]

The Pancreas.

The next pancreas I examined gave the following results:—

Explanation of Fig. 4.

a. Duodenum.
b. Blow-pipe passed through the duct. com. choled. into the intestine.
c. Head of the pancreas or vertical portion dissected and raised up from off the long portion.
d. Junction of the shorter duct with that of Wirsung; this junction takes place at the point where the main duct shews a disposition to divide into two ducts, as in fig. 1. (See p. 99.)

Fig. 4.

e. Narrow twisted part of the gland.
f. Sudden descent of the main duct (of Wirsung) behind the head of the pancreas towards the duodenum.
g. Main duct.
h. Bifurcation of the duct, this being its usual mode of commencing.

The pancreas I have just described belonged to a very small but adult female; it was rather putrid when dissected.

Fig. 5.

This view of the pancreas, which was next met with, requires scarcely any explanation. It comes, perhaps, nearest to what we may consider the normal arrangement; that is, one duct alone entered the duodenum; neither was there any of the afferent branches entitled in any respect to be considered as the rudiment or representative of the "shorter duct." The arrangement of the next specimen was somewhat similar, but not precisely so.

Fig. 6.

I find a memorandum attached to this dissection, by which it appears that, at the time, the arrangement of the ducts seemed to me most nearly to resemble the engraving of De Graaf. On re-examining, however, that engraving, I find that there are obvious differences. In the figure above, at *a*, there was a general union of ducts from all directions, and a remarkable dipping, with sudden turns of the longer ones, which no efforts of an artist could well depict. Moreover, I find in De Graaf's text a reference made to a short tube proceeding from the main one to join the duct. commun. choled., but the artist has seemingly omitted putting the letter of reference upon the engraving. The engraving, which I copy here, will speak for itself. (See fig. 7.)

A small pancreatic branch joining the duct. com. chol. previous to the junction of that of Wirsung, has been noticed by Tiedemann. Finally, in his text, De Graaf particularly notices the small duct belonging to the head of the pancreas, and he was quite aware of its occasionally entering separately into the duodenum. The criticism, therefore, of the editor of Santorini's work might have been spared; it was unfounded. De Graaf knew these structures, as seems to me, better than his critic, for he especially points out that sometimes these ducts communicate with each other by an anastomosis of their smaller branches, and sometimes they do not.

Figs. 8 and 9 are two views of the next pancreas dissected; it was that of a young man, æt. 15. In this case the pancreas has two ducts, distinct in all respects from each other. The long duct, or that of Wirsung (*c* and *a*), was normal as to its course, and terminated with the duct. com. choled. in the duodenum in the usual way. The shorter duct was formed of branches which came mostly from the smaller pancreas; it ascended vertically, and terminated by an extremely minute orifice in the duodenum, apart from that of the larger duct, and somewhat lower down. These ducts did not communicate with each other in any way, not by their minutest

Fig. 7.

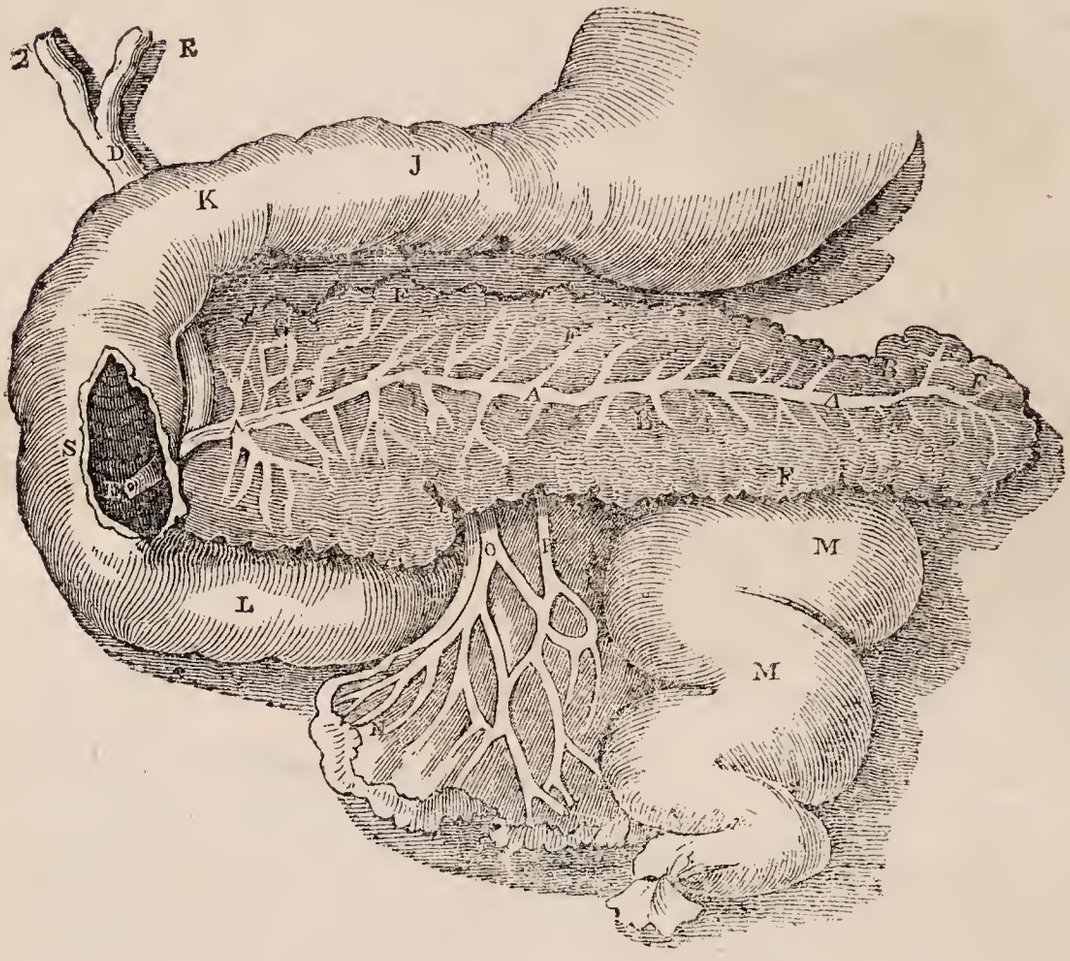
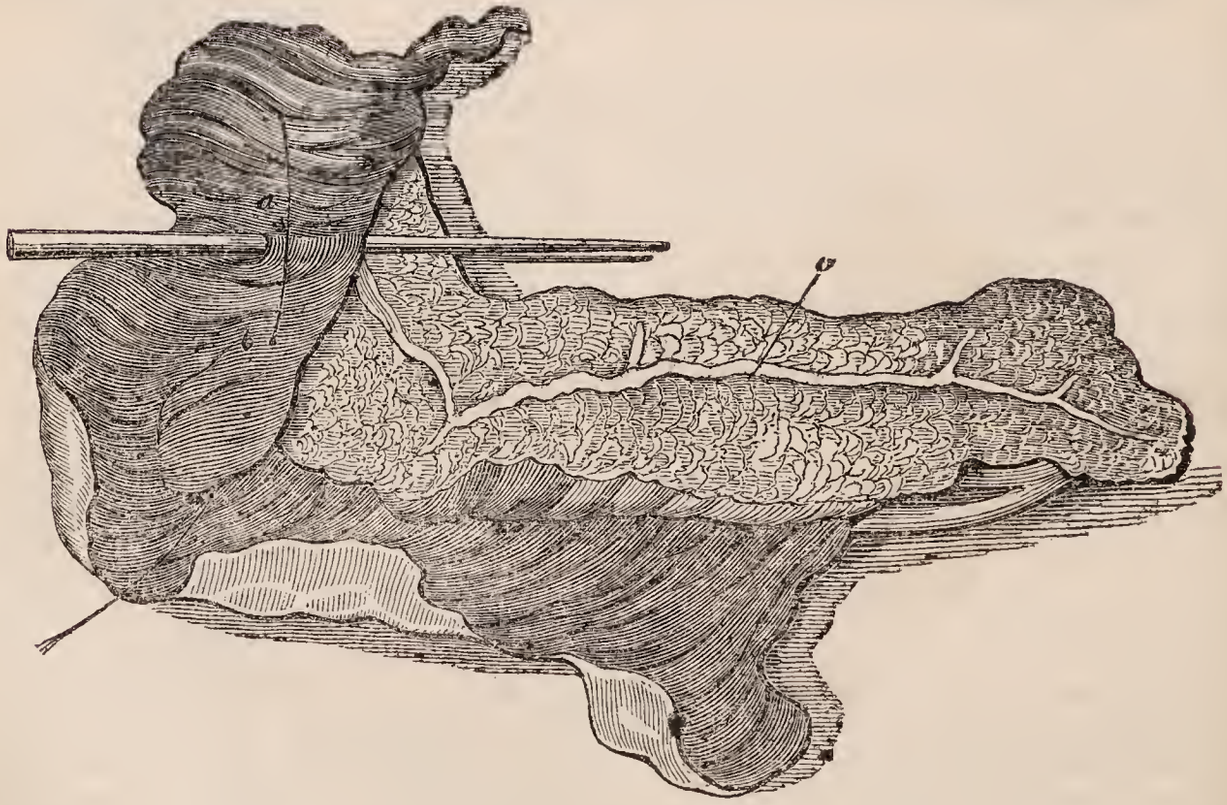


Fig. 8.



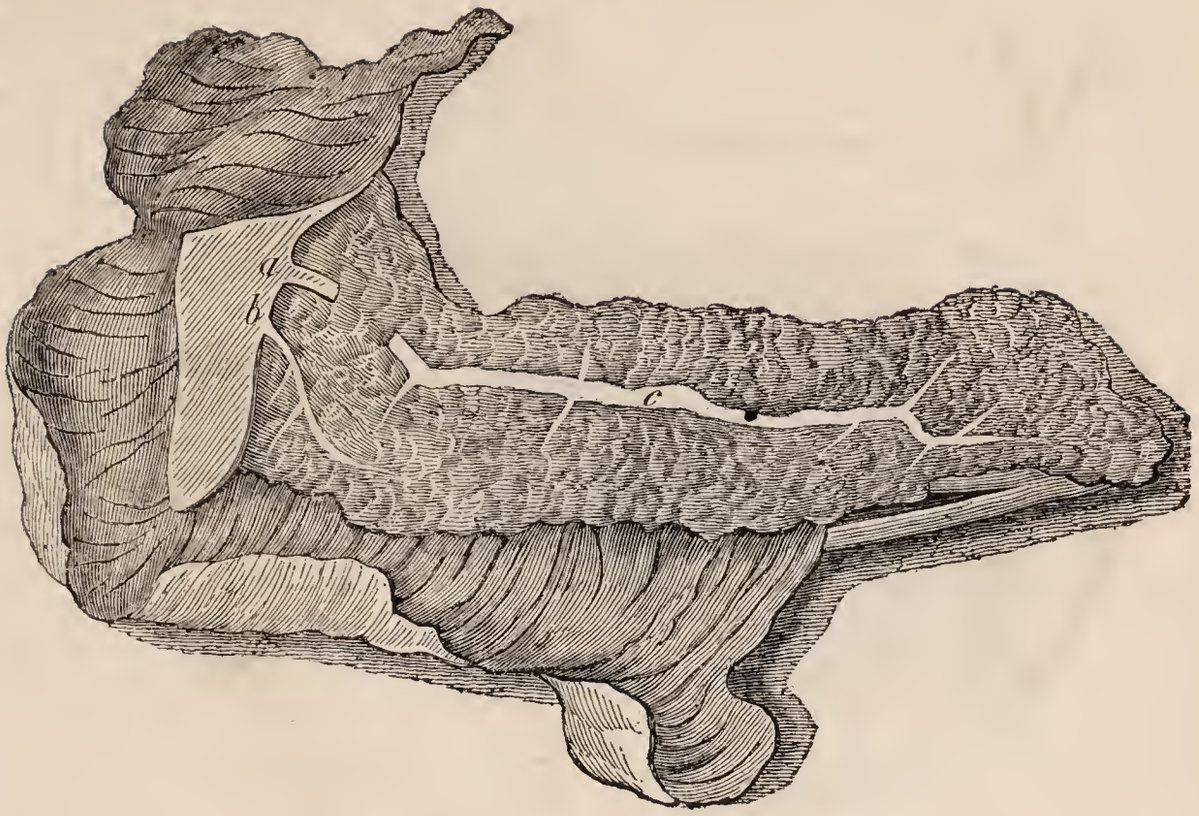
Explanation of Figs. 8 *and* 9.

a. Entrance of longer duct into the duodenum, in common with the duct. com. chol.

b. Orifice of the shorter duct.

c. The long duct in the body of the gland, shewing its remarkable turns, and that to neither duct exclusively does either of the larger divisions of the gland send its branches.

Fig. 9.



radicles, and thus the injection of the one could never have led to the detection or discovery of the other: I mention this as a caution to the young anatomist.

This case, then, presents the other extreme of fig. 4, and is unlike all the others; there were found two separate and distinct ducts, completely insulated from each other, but the two great divisions of the gland did not seem on this account in any way more distinct than they are usually found to be.

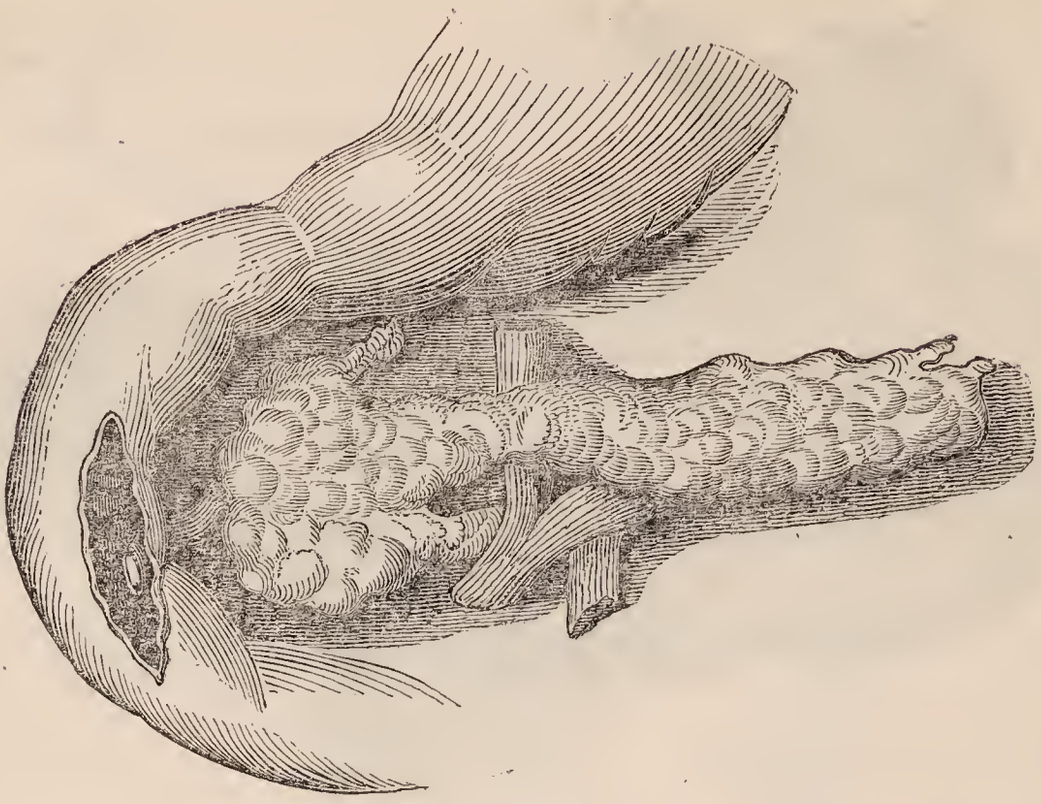
Of the eighth pancreas dissected I need not give any figure, as it resembles so closely that already given in fig. 6.

Fig. 10.

The reader will easily observe from the above figure that the pancreas next examined differed from all the others in having two considerable branches corresponding with the shorter duct of Santorini (which, however, merely joined the main one), and in presenting at the narrow and twisted part of the gland a considerable branch.

In Part II. I shall consider the arrangement of the pancreatic ducts in the fœtus, and in a few of the higher orders of the vertebrata, but subjoin here fig. 11—a figure of the exact form of the human pancreas, when merely cleared from the surrounding parts.

Fig. 11.



M. Cruveilhier's opinion* that the pancreas gradually narrows from its duodenal to its splenic end is manifestly incorrect; he seems disposed to give the name of "smaller pancreas" to that portion of the gland which passes behind, and in some measure around, the mesenteric vein. My own dissections do not confirm M. Cruveilhier's opinion that the duct of Wirsung, "par une disposition unique dans l'économie, est contenu tout entier dans l'épaisseur, on peut même dire, au centre de la glande;" on the contrary, the duct may be reached, from the posterior surface of the gland, without cutting into its texture. The expressions used by him respecting the ducts are not sufficiently precise. "Le canal excréteur est quelquefois double, et lors il y a un canal principal qui appartient au corps même du pancreas, et un petit canal qui appartient à la portion réflechie, ou petit pancreas†." I have not found that the smaller duct, when present, can be considered as belonging exclusively to that portion of the pancreas to which he has given the appropriate enough name of the "reflected portion."

Again, I have not found that the long canal augments progressively as it approaches the duodenum*, nor that the duct. com. choled. and pancreatic canal open constantly by a single orifice into the duodenum.

My object being merely to offer contributions to the correct anatomy of the human pancreas, I may be excused noticing more particularly for the present the writings of Meckel, Morgagni, Wharton, Winslow, and others. Meckel, who is in general a most exact anatomist, is not so happy as usual in his description of the pancreas; he commences by saying that it is six inches long and one inch thick (p. 473.) He quotes a work on the Fœtal Pancreas (Abhandlurgor, 331 to 386), which, no doubt, must be valuable: I regret not having been able to procure this work. The occurrence of two ducts in the adult pancreas he considers as merely a persistence of the fœtal condition of the organ. Professor Tiedemann published, in the "Journal Complémentaire," t. iv. p. 330, a very learned paper "On the differences which the excretory canal of the pancreas presents in man and in other mammalia." This paper by Dr. Tiedemann, like all his other writings, may be consulted with great advantage by the student. The very first dissection recorded refutes an opinion of M.

* Anatom. Descript. du Pancreas, t. ii. p. 591.
† Ibid. p. 595.

* Ibid. p. 596.

Cruveilhier, that when two separate excretory ducts exist, one must necessarily open into the duodenum along with the duct. commun. choled.; in Tiedemann's case this did not happen. It must be admitted, however, that both orifices were very close to the entrance of the biliary duct. Dr. Tiedemann seems to be of opinion, that when there exist two separate pancreatic ducts, the larger must necessarily unite with the biliary duct; but dissection 1st of this memoir refutes this view. It is almost needless to remind the anatomist, that all the varieties occurring in the arrangement of the ducts of the human pancreas are supposed to be reducible to two categories—viz. fœtal structures persisting to the adult state, or a repetition of what occurs in the lower animals. A very singular variety, which I have not met with, is described by De Graaf at page 517:—"Reperimus tamen in homine eos ita constitutos ut unus cum altero non jungeretur, licet uterque ad extremum pancreatis eadem fere longitudine ac magnitudine extenditur." This extraordinary length of the usually shorter duct I have not met with.

In conclusion, then, I may be permitted to say, that the language of most anatomists in respect to the duct or ducts of the pancreas is vague, and has led to nothing accurate. If by *two* ducts they mean two ducts running parallel, and nearly of equal length, then they speak of a structure so rare that I have never seen it, neither in a fresh dissection, nor preserved in any museum. If, on the other hand, by *two* ducts, they mean a short and a long one, and that the former belongs to the head of the pancreas, or the smaller pancreas, the latter to the larger and longer portion of the duct, then again their language is altogether incorrect; for when there exist two separate ducts in the pancreas, they not only vary in direction, origin, course, and connection, but it can be demonstrated that neither is exactly limited to either of the great divisions of the gland. In my next memoir I shall examine into the accuracy of the German hypothesis, which endeavours to explain some of these anomalies by the persistence of the fœtal structure.

OBSERVATIONS ON PUS.

By George Gulliver, F.R.S.
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[*For the London Medical Gazette.*]

As it is my intention soon to publish a second section of my researches on suppuration, I propose merely on the present occasion to offer a few extracts from my notes, with remarks, in relation to the valuable observations by Mr. Mayo in the last number of the Medical Gazette.

The pus-like globules seen by Mr. Mayo in the blood of healthy persons are probably the same as those mentioned by M. Magendie in his lectures, as the large white globules of the blood, and since noticed more particularly by Dr. Davy, in his Physiological and Anatomical Researches, just published by Messrs. Smith and Elder.

I have long been acquainted with the white globules; and at an early period of my inquiries often confounded them with those of pus, an error which a more accurate examination soon enabled me to avoid. In a communication submitted to the Royal Medical and Chirurgical Society, last March, "On the Composition and Elementary Structure of the Pus-Globule," I detailed the action of various reagents on this body in a manner which appeared to me calculated to establish its distinctive characters; and I have since learned that Dr. Ludwig Guterbock, in a very ingenious and original dissertation, had previously pointed out the compound structure of the pus-globule. The following notes are from my paper, of which a short notice was given in the Medical Gazette for May.

Exp. 1. *Action of sulphurous acid.**—On adding it to pus, no effect was apparent to the naked eye but dilution. A portion of the mixture was examined with the deep object-glass, when each globule was plainly perceived to be a compound body, viz. two or three spherical molecules centrically inclosed in an external part, the latter being apparently a little distended, and rendered

* An interesting account of the action of sulphurous acid on the animal textures is given by Dr. Davy, in the 3d vol. of the Edin. Med. Chir. Transactions.

so pellucid, as to allow of the former being observed very distinctly. The diameter of the molecules was from 1-10666th to 1-8000th of an inch.

Exp. 2. *Action of sulphuric acid.*—When mixed with a little pus the fluid became of a deep purple colour, and the pus appeared to be dissolved. On microscopic examination, however, the mixture was found to be pervaded by numerous little smooth spherical molecules, hardly one fourth the size of the entire pus-globule. They were not altered by keeping the mixture, nor by subjecting it to the heat of boiling water.

Exp. 3. *Action of acetic acid.*—The molecules were easily seen by the action of acetic acid. When the pus was quite recent, the external part of the globule was quickly dissolved, leaving the molecules quite bare; but if the pus had been kept a while, the external part of the globule was not perfectly soluble in the acid, although the molecules were immediately exposed by it.

Exp. 4. *Indisposition of the molecules to change.*—A quantity of the molecules obtained from recent pus by acetic acid were treated by repeated ablutions with rain water. They stood for months in a room at an average temperature of 60° without any change whatever, or the slightest signs of putrefaction. They seemed very dense. They were not affected by acetic acid at the temperature of 212°, nor by the addition of an excess of boiling water to the mixture of acid and pus. If pus be kept for some months, the external part of the globules will be more or less destroyed, but the molecules will remain entire, either connected together, but easily visible through the remains of the surface, or floating about separately in the fluid.

Exp. 5. *Action of water on the recent pus-globule.*—Take a little gonorrhœal matter, fresh from the urethra; the diameter of most of the globules will be from 1-3000th to 1-2666th of an inch; add some rain water, when they will become perfect spheres, which they were not at first, and so swelled as to present a diameter of 1-2000th of an inch, or even larger.

I at first thought this change peculiar to the globules of clap-matter; but I have often since seen the same phenomenon in recent pus from other parts.

The preceding experiments, which have not hitherto been printed in detail, exhibit some of the essential characters of the pus-globule. On their accuracy in this respect rests the greater part of the evidence on which I have founded my observations, "On the frequent presence and on the effects of pus in the blood, in diseases attended by inflammation and suppuration*."

As I hope to be able, shortly, to publish the results of an inquiry, in which I have been long engaged, concerning the nature of the white globules before mentioned, it is unnecessary to enter into the subject here. I have frequently examined them in birds and reptiles, from which it is to be inferred that these globules are distinct from those of pus. Dr. M'Donald† could not induce suppuration by any degree of injury in pigeons; nor have I ever been able distinctly to establish this process in reptiles, notwithstanding that statement of M. Gendrin, in which he assures us how easy it is to see the formation of pus globules in the web of the frog's foot.

Relative to the size of the pus-globule, the fifth experiment points out a source of fallacy. The diameter is, indeed, so variable, that scarcely any measurement has ever been given which might not be verified in almost any specimen of pus; and the same observation is equally applicable to nearly all the measurements which have been published, of the human blood corpuscle. If, however, we are to consider the individual diameter of the greatest number of globules, as seen at any one time in the field of a deep object-glass, I should have no hesitation in asserting that I have never seen them, in pure pus, so large as 1-2000th of an inch, though I have occasionally observed a few larger. Thus, in some pus from a chronic abscess in the neck, I have the following note: "almost all the globules, from 1-3000th to 1-2500th of an inch—but there were several much smaller, not more than 1-4000th, while in one field two were observed respectively of 1-1714th and 1-1600th of an inch; there were, besides, numerous pus-molecules from 1-12000th to 1-8000th of an inch in diameter."

I would venture to express a hope that Mr. Mayo will continue his observa-

* London and Edinburgh Philosophical Magazine, Sept. 1838.

† De Necrosi ac Callo, Edinburgh, 1799.

tions on suppuration; and I am glad to see that Mr. Lane too is directing his attention to this interesting subject. Dr. Davy observes, with much truth, that "inquiry is now happily directed to pyogenesis, and with the aids which the collateral sciences are capable of affording, there is good ground to hope that its termination will be successful; and, if successful, that it may be the commencement of a new era in pathology*."

Regent's Park Barracks,
Oct. 21, 1839.

ON THE IMPORTANCE OF ATTENDING TO THE PREMONITORY SYMPTOMS OF INSANITY; *With Cases.*

By John Grantham.

[*For the London Medical Gazette.*]

To judge by the many admirable productions of the most distinguished writers upon the subject of insanity, it might be naturally supposed that few, or none, of the medical profession could be very deficient in a knowledge of that malady, and were the question proposed perhaps no one would have the modesty to confess his ignorance of a disease which has, however, been the means of casting repeated and well-merited opprobrium upon the whole profession. "Every one knows how little value is attached to the evidence of medical men in cases of lunacy, on account of the wild and fanciful notions which they often bring into court with them. In common practice, if insanity declares itself, and resists bleeding, blistering, and purging, all the anxiety of the practitioner is to get the patient out of his hands, and to send him, no matter where, so that he sees no more of him; and we can ourselves testify, from personal observation, that a nervous patient may be taken from the practitioner who has been in attendance, dragged, under the most unfavourable circumstances, before another, sentenced to confinement among lunatics, and placed beyond the possible means of immediate liberation†".

When we reflect upon the consequence of such ignorance, among a class of men whose office is directly associated with the worst personal, relative, and social evil that can afflict humanity, we may, indeed, be alarmed at the responsibility we each incur in our decisions upon and treatment of the insane. In such cases it is not enough that a medical man do the best he can for his patient; he should be able to do the best that *can* be done, and in the majority of cases very much may be effected; not unfrequently, indeed, the patient be delivered from impending insanity, by rightly comprehending its premonitory symptoms; and if we reflect that beyond their boundary is madness, when the wretched patient will be submitted to the slender chances of recovery in a lunatic asylum, how deeply anxious should we not be to rescue him from such an extremity.

To arrest the approach of death, and to reinstate our patient within the circle of the living, demands no ordinary powers, but to wrestle with the premonitory warnings of madness, and to deliver the sufferer from the bondage of a living death, calls for the exercise of our highest faculties, and most extended means.

The duties of the general practitioner, in cases of insanity, are chiefly limited to the treatment of the premonitory symptoms; it is at that time when the patient stands, as it were, on neutral ground, that the practitioner is sent for; at a time when he is surrounded by relatives and friends, and the soothing attentions of home—circumstances often the most favourable for the sufferer*. But with these advantages, a very frequent cause of error in the judgment of a medical man (when called upon to decide as to the state and probable restoration of the patient) is the undue regard which is paid by him to the wishes and opinions of the friends, who seem to take a pleasure in enlarging upon the odd whims and irregularities of the patient; the fears of one party and the ignorance of both soon settle the question, and at once precipitate the poor sufferer from a state of comparative sanity into irremediable madness. A medical man will do

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* Physiological and Anatomical Researches.

† See the British and Foreign Medical Review, No. xiii. p. 3.

* "C'est souvent," says M. Esquirol, "dans le premier mois qu'on obtient le plus grand nombre de guerisons," and which opinion is confirmed by Pinel.

well to prefer even the unmethodical relations of the patient rather than trust to the opinions of friends, for how often is it that actions seemingly the most whimsical may be strictly consistent with the physical condition of the invalid; thus insane persons tormented with feverish heat delight in exposing themselves to cold air or water, while, as M. Esquirol observes, a disordered state of the digestive organs often renders them (the insane) averse to taking food.

Avoiding all opinions that are prompted by the timidity or ignorance of the relatives, the practitioner will possess a most valuable agent in the advantages of home; but while he will necessarily avail himself of all the moral agents, the great evil is lest too much should be trusted to them. If the tongue be clean, the pulse regular, and the evacuations natural, the patient is too often comforted with a mild soothing remedy, and a few soothing words: he is encouraged not to foster whims and fancies, and thus the farce goes on until it ends in permanent mental derangement. The result brings no reproach upon the practitioner; the very definition of the term *mental derangement* acquits him of ignorance or neglect. We are little aware how much confusion arises from wrong definitions, and in no instance is this truth so forcibly exposed as in the ill-defined and misunderstood term mental derangement. Sudden terror or protracted grief act upon the brain and nervous system, and end in madness; the brain responds to the mental action, and becoming deranged reflects upon its agent the evil it has received; and thus mental derangement, though caused by the mental influence, is a subsequent effect of its own operations. If this definition were always kept in mind, any objection to the term would be impertinent; but the practice of regarding insanity as simply a disease of the mind, and which the state of the patient's general health will frequently corroborate, has led to the worst consequences in the treatment of the insane. Such a definition, with medical men, unless carefully explained, will be prejudicial to the success of their plans. It should never be forgotten that what is true in psychology may be false in physics.

From pecuniary losses, or domestic disquietudes, a man becomes dejected, or irritable, abstracted, melancholy, nervous, or ultimately mad; the primary cause of his madness is justly said to be mental, but the effect is manifested by bodily disease, and if not always to be detected, yet not the less certain is it, as M. Esquirol remarks, "that the chances of cure in insanity, but especially in melancholy, always offer more hope when we are able to perceive some disorder of the function of assimilative life."* The same is observed by the author of that very able review in No. XIII. of the British and Foreign Medical Review. "We grant that the mental malady may often be but the first sign of that total impairment of the frame which phthisis, or hydrothorax, or scorbutus, or paralysis, or marasmus, afterwards more plainly declare; but we suspect that there are cases in which, if the life of the patient were preserved through some of the maladies supervening on the mental disorder, the mind would be found to be restored, and the malady to be critical."† This opinion affords a most encouraging confidence in the possible cure of almost all cases of incipient lunacy, and could we but enlarge our faculties, so as to trace out the organic and functional changes in the various states of insanity, as in other diseases, there would be little to apprehend from its continuance. Happily for the patient, the time when he consults his physician is the time best adapted for medical aid: the patient is capable of describing his own feelings, he knows that something is wrong, and he often takes a melancholy pleasure in the relation of his minutest sensations—it is then that the medical attendant must be observant, acute, forbearing, and most anxiously solicitous, if he would save his patient, and with the nicest caution avoid every appearance of indifference, nor repress the anxities of the sufferer by the assurance that he is nervous, fanciful, or whimsical.‡ Consistent with the preceding opinions the materia medica will always furnish its

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* Forbes, vol. i. p. 476.

† See page 30.

‡ La conduite du medicin doit toujours être grave, la plus scrupuleuse justice doit caracteriser ses ordres. Jamais il ne doit plaisanter les malades sur les idées fausses qui les tourmentent: c'est un moyen sur de les exasperer.

Jamais non plus il ne caressera leurs chimieres, mais ecoutant avec patience les plus minutieux details de leurs peines, il tachera de convaincre ces malheureux qu'ils ont maladies, et que tous ses efforts ont pour but de les guerir.—*Foville.*

aid to that of the moral agents. It is better that medicine should even create a disease, than to resign its agency from an opinion that the case is altogether a mental alienation.

To allay the irritabilities of incipient insanity is certainly a desideratum in medicine, and we wish we could entertain the consolatory belief possessed by Sir W. Ellis, that "there is in nature some undiscovered medicine that would act as a specific in these cases." Whether such a catholicism can exist or not, is indeed doubtful; but that remedies correspondent to the nature of the disease may be procured there is no doubt. On being called upon to attend a case of incipient insanity, what is the plan to be pursued? This is the question which every one would naturally propose to himself, and which of course involves the issue of the case. The first consideration should be, that mental derangement implies bodily disease* in some form or other. With such premises the medical man must inevitably circumvent the whole case in all its relations, neither omitting nor trusting too much to the moral treatment, while he is on the alert to apply the most efficient medicines. The conduct and treatment of the medical man must be directed entirely by the cause, character, and violence, of the malady; if a disease of excitation, or depression, or vivid hallucinations, or drowsy apathy—whatever be the state, the physical appearances will sure to be coincident with the force and nature of the affection. The bodily organs soon yield to the mental suffering, and by their very derangement furnish the best possible suggestions to the physician, and in many cases the most effective antagonist to the disease. It is chiefly from this cause that the medical plan is more available in incipient than settled insanity: in the active and conscious struggle between reason and madness the health always suffers, but with absolute insanity the mind loses all its former recognitions: those previous anxieties and forebodings disappear with the mental consciousness, leaving the patient in that state of utter apathy or frivolous activity which is often most agreeable to the general health*. It becomes, therefore, a matter of the highest importance to attend to those never-failing physical indications which characterize incipient mania: further than these first principles it would be useless to speculate upon the premonitory symptoms of insanity. "Quel est celui," says M. Esquirol, "qui pourrait se flatter d'avoir observé et de pouvoir décrire tous les symptômes de la manie même dans un seul individu?" Every thing must be left to the occasion, and however intricate and obscure the disease may appear, much if not all may be effected by a steady and critical examination of the case, personal and relative. The following cases will perhaps better serve the object of this paper than all that could be further said upon so involved and expansive a subject as the premonitory symptoms of insanity.

In describing the following cases I feel some difficulty in stating the particulars of the treatment, as they are written from memory, with the assistance of but imperfect notes.

Case I.—Jan. 6th, 1832. I was consulted in the case of W. C., of Greenwich, employed in an oil and colour shop. In stature he was short, temperament melancholic; complained of great depression of mind, inability to rest, loss of affection for his wife and children, which he appeared greatly to regret, and a sense of insufficiency to perform any act. His medical attendant considering it the most advisable step to send him to a lunatic asylum, accordingly wrote, or offered to write, a

* Ainsi on peut établir que la plupart des causes de la folie agissent en excitant le cerveau.—*Foville.*

* Shakspeare, with his usual philosophical accuracy and profound observation, has strikingly illustrated this truth in the passionate reasoning of Constance:—

Pandulph.—Lady, you utter madness, and not sorrow.

Constance.—Thou art not holy to belie me so;
I am not mad: this hair I tear is mine;
My name is Constance, I was Geffrey's wife;
Young Arthur is my son, and he is lost;
I am not mad; I would to heaven I were!
For then 'tis like I should forget myself.
O, if I could, what grief should I forget!
Preach some philosophy, to make me mad,
And thou shalt be canonized cardinal;
For being not mad, but sensible of grief,
My reasonable part produces reason—
How I may be delivered of these woes;
And teaches me to kill or hang myself:
If I were mad I should forget my son;
Or madly think a babe of clouts were he:
I am not mad: too well, too well I feel
The different plague of each calamity.

certificate to that effect. His friends not being satisfied with such an alternative, requested me to see him. I found great torpor of the liver, an intermittent form of fever, erysipelatous inflammation of the integuments covering the head, the vessels of the tunica conjunctiva injected with a yellow fluid, the urine copious and pale. The mouth was made sore with mercury, which tended only to render the paroxysms more distinct. On examining the chest, the sternum was much depressed, the action of the heart feeble, the region of the liver free from tenderness: in the epigastric region the stomach was found developed, extending down to the umbilical and left illiac regions. I ordered him a spare diet, with two drops of the hydrocyanic acid, three times a day, increasing the doses gradually, until he took fifteen drops in the day, which finally procured four good nights' sleep. His mind resumed its tranquillity, and he felt able to attend to his employment. The senses of hearing, smelling, and seeing were natural, but the senses of tasting and feeling unnatural. He continued improving. Nov 4, 1832, his friends informed me he had remained well, filling up his time with active exertion, and is, up to the date of this paper, enjoying good health.

Case II.—In relating the case of this patient, Mrs. F—r, it may be right to observe, first, that previous to her marriage, in 1830, I attended her in consequence of an affection of the brain. She did not speak for seven months, during which time the circulation was not disturbed; there was functional derangement of the stomach and intestines, attended with great constipation of the bowels; the rectum appeared quite inactive, in spite of stimulating injections. She occasionally refused food, and fasted a most extraordinary length of time; the catamenia ceased, and, as it afterwards proved, from pregnancy; thence a cause for the hysterical mania. Since this time she has been the mother of three children, has conducted herself with great propriety under the most trying events of life, until January 23, 1837, when, from excessive grief for the loss of a child, a low type of fever came on, accompanied with great vitiation of the excretions and loss of flesh. At this time she became pregnant, and appeared to rally, recovering her strength so as to enable her to take moderate exercise.

On the fifth of February, 1837, she was attacked with mania, attended with refusal of food, and loss of one or more of the faculties of the mind, without any perceptible disturbance of the sensations or voluntary motions. There appeared to be no one subject on which she might be excited. The paroxysms gradually became more and more severe. I gave large doses of tartarized antimony, and bled generally and locally, never exceeding ten ounces of blood at one time. The hair was cut short; cold and hot applications were tried to the head; blisters along the spinal column, dressed with strong mercurial ointment. For aperients, I first gave doses of six grains of calomel, with the sulphate of magnesia, which had no effect; the croton oil; also injections of hot water, containing salts, turpentine, castor oil, &c. By these means the bowels were relieved about once in forty-eight hours; the urine passed involuntarily. I next gave two drachms of the aromatic spirit of asafœtida three times a day, which unloaded the bowels copiously; the bladder regained its tone; she increased in strength, her memory returned, and she took food by the mouth, having been previously fed with liquids through the nostrils by means of a funnel, and injections of beef-tea, &c. per anum. During this treatment, which lasted about five weeks, I kept the husband and family away from her; but on the 26th of March, finding her so much restored, and she having a desire to see her husband and children, I allowed it, with the hope of improving the better feelings of the mind. On the evening of the same day, to the end of seven days, she lost all memory, became most violent, using the most horridly obscene language, eating her food voraciously, again passing the urine involuntarily, and bowels not acting for five days, notwithstanding the daily use of injections. I repeated the use of asafœtida, which had the same beneficial results as before; her mind became more tranquillized, and on the 16th of August she gave birth to a fine healthy child. Three days after delivery reason once more returned, and my patient, up to the present time, has remained in perfect

health of mind and body, and is anticipating the birth of her fifth child in September.

Case III.—Dec. 26th, 1837, I was sent for to visit a Mr. G. L—y, whom I found almost naked, in a state of excitement, labouring under great uneasiness, his ideas incoherent and incongruous, with unusual gestures, now and then bursting into a frantic state, exclaiming "System! system! I want system!" On inquiry into the cause of this sudden fit of insanity, I learned he had been in a very melancholy state of mind for two years, having previously imbibed the doctrine of the justifiability of suicide. The pulse was quick and flurried; tongue white and dry; skin hot; the eyes inflamed. I administered ten grains of tartarized antimony in his tea, which required to be repeated in two hours. After the second dose he became tranquil, but was evidently suffering from the most agonizing feelings of mind. He was now bled to the extent of sixteen ounces, and afterwards in small quantities, according to the hardness of the pulse: he also underwent a gentle course of mercury, taking the tartarized antimony, with small doses of sulphate of magnesia, according to the severity of the stages of excitement, which assumed an intermittent form. I forbade reading and conversation, but enjoined exercise of the body, especially gardening. In three months my patient became quite tranquil. I now requested him to go to sea, quit all his associates, and endeavour to forget the past, and contemplate the works of creation. This has happily proved of great service. I heard from him about two months ago; he was then off the Isle of France, in excellent health and spirits. It is just to observe, that when he left this place, as he felt the tendency to excitement, so he took the ant. tart., with the sulphate of magnesia, until the feeling subsided.

On further inquiry as to the moral cause of this condition of mind in a subject apparently so healthy, and descended from sound parents, I learned that he was placed as an apprentice, at the age of 14 years, to a carpenter and joiner, at Rotherhithe, who frequently in the presence of my patient held conversation with another man on the justifiability of suicide. My patient then perused deep tragedy, making notes or comments on all those parts of the drama that refer to suicide. He also studied the science of music, and afterwards he had his mind excited with some lectures of Carlisle's, Macconnel's, &c. at the Rotunda, Blackfriars' Road, thereby living a life of undue excitement, which unfitted him for the duties which devolved on him in his station of life. Feelings of vexation and disappointment preyed on his mind; he sunk into a rooted distrust and hatred of mankind. It may also be interesting to add, that the individual who first sowed the seeds of the suicidal principle in the above case, himself committed self-destruction.

Case IV.—About the year 1830 I was asked by a medical friend to visit a patient, Mr. T——s, who had been under the care of two other medical men, who considered his case one of mania. I found the patient a tall spare man, of a melancholy temperament; in conversation gloomy and distrustful, with a full power of memory. His skin dry; bowels clayey and very offensive; urine scanty and high coloured; fever of a remittent character, with typhoid tendency; pulse frequent and feeble; the senses of hearing and seeing natural; smelling, tasting, and feeling depraved. The subject which had occupied his thoughts more than any other was the hyper-calvanistic sentiment, which he had imbibed with all the poison of bigotry. The difficulty of reconciling the unlawfulness of the act of living with another woman, his wife (whose character was not free from blemish) being alive, caused impressions in his mind which so disturbed the other feelings as to cause a profound state of despondency. I enjoined a light nutritive diet of animal food, in solution, barley water, gruel, &c. every two hours, in small quantities; to maintain the recumbent posture, and the temperature of the feet to be attended to by means of a foot bath; the internal exhibition of calomel, with small doses of tartarized antimony, every three hours, according to the state of the stomach and bowels, and friction to the abdominal region, with the unguentum antimonii tartarizati. In the course of seven or eight days black offensive mucous discharges were passed from the

bowels; the mind became more active; the strength began to return; and the fever assumed more of an intermittent character. I now ordered the quina to be given between the paroxysms of fever, which afforded him much benefit, yet a considerable restlessness of mind remained, and although the health was so much improved there was evidently an enlargement of the liver. At this stage I suggested his being removed to another place, it mattered not where, as a change of scene was necessary to give a turn to the moral feelings, and remove him from those surrounding objects which had been excitants in the commencement of his affliction. With this last injunction he did not comply, his health sank, he became a complete monomaniac; all hope in a future state being denied him. His pecuniary circumstances left no alternative but a lunatic asylum, to which he was taken, and in which he died within a few months of his admission.

Case V.—John ——, a printer, about 48 years of age, whose family had suffered from mania, was addicted to excessive and long continued acts of intemperance. He possessed great mechanical power, and was considered a very superior workman; poverty was no incentive to duty; he would drink while money lasted or credit could be obtained, and to such an extent were his acts of inebriety carried that his family were compelled to seek parochial aid, which led to his removal to a lunatic asylum at Peckham, from whence he returned cured after two months' confinement; he then continued well for about six months, working at his employment; again he resorted to his old habit, and in one of the excitements (Feb. 15th, 1832) he divided the trachea, anterior portion of the pharynx, and some branches of the lingual arteries, with a razor. After tying the vessels, the head was brought down towards the chest, and I forbade his making any effort to swallow; on the third day I tried to pass a long elastic gum tube into the æsophagus through the nostrils, but it returned through the wound. He was sustained by means of injections of beef-tea, gruel, &c. per anum, which supported life until the opening in the pharynx closed, which was effected by the 18th of March. The fluids could now be made to pass into the stomach with the assistance of a pad of lint to the wound so as to exclude the atmospheric air, and cause the glottis to act. On the first admission of food into the stomach, gastric irritation supervened, which was relieved in a few days by occasional doses of ten drops of laudanum, and a drachm of carbonate of soda. He again became tranquil, in which state he remained about nine or ten months: but at the expiration of this period he relapsed into his old habit. His wife, to prevent his being sent a second time to an asylum, suffered every privation, and actually died, owing to the weight of her cares. Even this melancholy event had only a temporary effect. He a second and third time attempted suicide; on the latter occasion by jumping into a well. During the interval of these paroxysms I frequently pointed out to him the necessity of attending to the early symptoms of excitement, and he at last consented to allow me the power to act when I thought proper. Accordingly I requested his family to give me early intimation when he commenced drinking, so that I might have him brought home, and watched by an able attendant. Since he has allowed me this power I have in the first twelve hours of the attacks administered repeated doses of the Tart. Ant. cum. Sulp. Mag. in doses of from six to ten grains of the antimony, to two drachms of the sulphate, which always had the effect of quieting him, and allowing of future treatment, without any further need of control. The management of the case then consisted in giving him Sodæ Carbonas and Spirit Ammon. Aromaticus in large doses, with a bland nutritive diet. It must be remembered that the mucous membrane of the intestines of such men is generally in an irritable condition, and if pain or tenderness in the epigastric region, with a hardness of the pulse, came on, I have taken six to eight ounces of blood from the arm. By a repetition of this treatment my patient is now able to support his family, and has also by frugality made some reserve for declining life.

Crayford, Kent, Sept. 30, 1839.

SMALL POX AND VACCINATION.

To the Editor of the Medical Gazette.

Sir,

It is certainly much to be regretted that an error, or rather a series of errors, such as those which I pointed out in my last communication, should have occurred in Dr. Baron's report, because it leads naturally to the inference, that the same "hurried and broken manner of carrying on the inquiry," to which Dr. Baron attributes one imperfection, may have led to others. My present object is to point out, not an error of fact, but what I believe to be an error of conclusion from a fact.

Dr. Baron has stated very clearly (at page 26) Mr. Ceely's recent experiments at Aylesbury, which have clearly demonstrated, that the cow will receive the infection matter of variola from man, and *convert it into vaccine*. Dr. Baron then proceeds to say, "this highly valuable information cannot fail to have a most salutary influence. The right understanding of this question, both by the profession and the public at large, will, we are assured, greatly tend to remove the prejudices which still exist; to secure correct and satisfactory practice; and enable us to speak with confidence respecting its nature and object, as well as of the protection which it (vaccination) affords." "Well may we now say, to use the language of Jenner, that vaccination is placed upon a rock, and that, if properly conducted, it will secure the constitution as much as variolous inoculation possibly can."

It appears to me, sir, that these conclusions savour somewhat of hurry, and that they have been penned without that caution and careful deliberation which the importance of the subject demands. Of the value of Mr. Ceely's experiments, as a most interesting addition to the pathology of vaccinia, no one is more fully sensible than myself; but I am wholly at a loss to imagine how these experiments are to *remove prejudices*; by what means they are *to secure correct and satisfactory practice*, or in what way they are to convince us that vaccination and variolous inoculation are *on a par*, in respect to their power of securing the constitution from the further assaults of variola.

First, as to the removal of prejudices. Whatever prejudices against vaccination exist, must be on the part of the world in general, not on the part of the profession. Dr. Baron admits (page 76) "that the confidence of the profession at large in the virtue of vaccination is unshaken." Surely it cannot be said that existing prejudices in the public mind have had their origin in any doubts as to the pathology of cow-pox. But even if they did so arise, Mr. Ceely's experiments could hardly remove them; for by Dr. Baron's own showing (Report, p. 10) they only corroborate the opinions of Jenner—opinions which have now been before the world for forty-one years; independent of which, we have Dr. Baron's own authority for saying, that for the last eight years at least no such doubts and misgivings ought reasonably to have been entertained.

On the 21st November, 1831, Dr. Baron addressed a letter to you (to be found in the Lond. Med. Gaz., vol. ix. page 301), wherein, after alluding to Dr. Sunderland's experiments on the infection of cows with variolous effluvia, he uses the following strong expressions:—"Since that period," meaning the death of Dr. Jenner, "the great problem touching the origin of the variolæ vaccinæ *has been solved;* and the soundness of Dr. Jenner's views has received *the most signal corroboration.*" Again, he asks, "How has the conviction on the mind of Jenner, as to the identity of small-pox and cow-pox, been strengthened and demonstrated?" The interesting fact recorded by Dr. Sunderland is *demonstrative* of the truth of the conclusions which have been mentioned. The difficulty which I experience is in understanding how Mr. Ceely's confirmation of a fact which, on Dr. Baron's own shewing, had been proved and demonstrated nine years ago, and invariably taught and urged by Dr. Jenner from the first announcement of vaccination, is to have the effect of overcoming prejudices which still exist.

Still less am I able to perceive how these experiments are to succeed in *securing correct and satisfactory practice.* The careful practice of vaccination is surely independent of all theoretical speculations on the origin of the vaccine virus; and if a practitioner

should exist who still withheld his assent from the pathological dogma, he would nevertheless be equally anxious to secure a correct and satisfactory result. The establishment of a general penny postage, by the facilities it will afford of supplying the public with vaccine lymph, both abundant in quantity and from various sources, will do more to secure correct and satisfactory practice than the solution of twenty pathological problems.

I come now to investigate that presumed third effect of Mr. Ceely's experiments, viz. that they will enable us to speak with confidence of the nature and object of vaccination, as well as of the protection which it affords.

At page 39 of Dr. Baron's report, you will find it thus written:—"As long as doubts existed respecting the character of the disease derived from the cow, as long as it was a question whether it was of a variolous nature, it was impossible to predicate with any certainty whether it was likely to afford a permanent or a transient protection." I read over this passage two or three times, before I could persuade myself that it was written by the author of the life of Dr. Jenner. One of the chief designs of that work was to shew, that no reasonable doubts could have been entertained on the subject; that the early observations of Jenner, on the permanency of vaccine protection, were of themselves sufficient to satisfy any man, and that the labours of his successors proved the doctrine amply and satisfactorily, twenty years before the experiments of Dr. Sunderland on the infectious communicability of small-pox to the cow, and thirty years before Mr. Ceely demonstrated the communicability by inoculation. I will trouble you only with one extract. At page 278, vol. i. Baron's Life of Jenner, the author, after commenting on the strong expressions (as to the permanency of vaccine protection) employed in 1825 by the Royal Academy of Medicine of Paris, states his own opinion in these words:—"After the most mature examination, it cannot be doubted that this process, when duly gone through, does certainly afford as complete immunity from subsequent attacks of small-pox as that disease itself can do. Indeed," he adds, "if I were to be guided by my experience in this district, I would say that cases of failure have been so rare, as to justify even a stronger statement of the protecting qualities of cow-pox." Surely this is predicating with some certainty; it is "speaking with some confidence respecting the nature and object of vaccination, and of the degree of protection it affords." Doubts regarding the intimate nature and variolous origin of vaccinia either existed at that time, or they did not. If they did then exist, these deductions of Dr. Baron were premature, and ought not, according to his own statement, to have commanded our confidence. If they did not exist, then Mr. Ceely's experiments are *surplusage*, and cannot, therefore, reasonably be expected to produce those valuable results, both to the theory and practice of vaccination, which Dr. Baron's report anticipates.

Your obedient servant,
GEORGE GREGORY.

31, Weymouth Street,
Oct. 28, 1839.

To the Editor of the Medical Gazette.*

SIR,

MANY of your readers who are interested in the inquiries going on respecting small-pox vaccination, must have read the Report of the Vaccination Section of the Provincial Medical and Surgical Association with much surprise. It is therein stated (page 65), in a quotation from the work of Mr. Cross, of Norwich, "that out of 603 persons affected by that disease (variola), 297 had previously had small-pox." Their surprise will have ceased on reading the letter of Dr. Gregory, in last week's Gazette, in which it is shewn that the 297 persons mentioned by Mr. Cross as having been previously inoculated, and composing part of 112 families, had no eruptive disease at all during the Norwich epidemic, and that the passage in the report of the Provincial Medical and Surgical Association is altogether a misquotation from Mr. Cross's work.

Now I should like to ask whether it is not a most shameful and unpardonable blunder on the part of the gentlemen composing the committee of the Medical and Surgical Association, of which Dr. Baron is chairman, to allow

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* We insert this letter, which was received too late to publish last week, because, although it was answered as to one point, by Dr. Baron, in our preceding No., yet other important questions are touched upon.—ED. GAZ.

such an error to be published to the world, to mislead the profession and the public, in a point of such pathological and vital importance. Small-pox after small-pox is well known to all the intelligent and well-informed of the profession, to be of *very rare* occurrence indeed, and I should like, also, to ask Dr. Gregory, who is pretty well acquainted with the literature of his profession, especially that part of it belonging to small-pox and vaccination, why he allowed such a gross error to be published, as I see his name on the committee of the Medical and Surgical Association, as well as that of Mr. Cross himself, Dr. Conolly, &c. &c. and hence a guarantee is given to the profession that the literary part of the report has been carefully drawn up; and I also see that both Mr. Cross and Dr. Gregory were at the association meeting at Liverpool, and must have had an opportunity of knowing the contents of that report.

As chairman of the vaccination section of the Provincial Medical and Surgical Association, Dr. Baron is, doubtless, the responsible person; but unless the committee were to have a voice in the report, why not make Dr. Baron at once the Alpha and Omega of the section. We have had enough of his laudation of Jenner year after year; we want now to arrive at the real merits of vaccination.

If we except the valuable experiments of Mr. Ceely, of Aylesbury, I really do not see that the Provincial Association has advanced one step in support or illustration of vaccination. "The impression" and "strong belief in the efficacy of vaccination," reported by Dr. Baron from different medical practitioners, are of little value; we want *facts*; we want some carefully drawn up statements to corroborate these beliefs. It is not enough for the thinking part of the profession that a few who have the management of this branch should be wedded blindly to a particular belief. However much our wishes may incline us to favour vaccination, we must not be like the advocates at the Old Bailey, determined to bring off our client victorious, whether deserving or not, because truth will have its sway at last, and it may be doubted whether the practitioners of the next century will not laugh at the manner in which we have been misled by Dr. Baron: even in his last report he first tries to convince us that vaccination is much better than inoculation, and then turns round and argues that they are one and the same, as instanced by the late experiments of Mr. Ceely, which experiments he says have only confirmed the original belief of Jenner, that the two diseases are identical*.

There is but one hospital in England, I believe, for the treatment exclusively of small-pox, and it seems that the report from that hospital during the late epidemic was not so favourable to the cause of vaccination as Dr. Baron wished it should be, and hence it is passed over by him nearly in silence; Dr. Baron, in fact, refusing to accept one of the largest masses of evidence to be found in any one place in England, on the subject he was professing to give the profession the best information he could. But this is not all, and I wish the point to be particularly remarked: the most laborious and accurate work published in Europe, on small-pox and vaccination, that by Dr. Heim, in Germany, and which accords, so far as I can understand, with the experience of the small-pox hospital in London, has also been passed over, in Dr. Baron's report, in the most cursory manner, although this work was published nearly 12 months ago; and since the formation of the vaccination section of the Provincial Medical and Surgical Association †.

Taking all these points into consideration, the errors actually committed, and the evident bias of Dr. Baron in favour of his cause, the profession must view with me the Report of the Association as giving any thing but a just and impartial account of the state of vaccination in England.

I have the honour to be, sir,
Your obedient servant,
SCRUTATOR.

Oct. 19, 1839.

ON THE VENEREAL DISEASE.

To the Editor of the Medical Gazette.

SIR,

I SHOULD not, perhaps, have deemed it necessary either to the advocacy of sound chirurgical knowledge, on the one

* Vide Report Vaccin. Section, pages 59 and 96.
† Vide No. 13, British and Foreign Review.

hand, or to my own reputation, on the other, to have offered any remarks on the letter of Mr. Welbank on venereal diseases, published in the number of the Gazette for October 12, had I not myself experienced some difficulty in detecting both his meaning and the intent of its publication.

That small fragment of the professional public who ranged with me among the list of students and observers on venereal phenomena (to use a somewhat comprehensive term,) have read the letter of Mr. Welbank and the lectures to which it alludes, would feel inclined to the conclusion that that gentleman's comments were pointed against me, and my unheard-of opinions on venereal diseases. This, I confess, was my first but mistaken impression; and as few will undertake, as I have done, to investigate his meaning by repeated perusal, I suppose I must be under the imputation of a species of ingratitude, in promulgating doctrines at variance with the school in which I have already acknowledged I first derived both interest anp instruction. Believing, as I do, that our views on this subject are almost identical, in relation to its general division, as well as to the more important consideration of treatment, there yet remains one point of difference between us, which I conceive to be of sufficient moment to warrant some notice.

My landmarks, I will take on myself to reassert, are clear and definite. I believe I have succeeded in simplifying and rendering easy of comprehension, at least to the class of students to whom my lectures were delivered, the variety of venereal disease they are required to know. Mr. Welbank conceives me in an error, in referring the great variety of venereal sores to one *primitive* origin, and assuming their complication of characters to be dependent on local and constitutional peculiarities in the affected party. If I find that the experience of Mr. Evans detected examples of different forms of disease appearing in three or more individuals who had had connexion at the same period with the same woman; if daily experience furnish examples of the repetition of the same form of disease in each person, one man's liability exhibiting itself in the form of venerolæ, a second of gonorrhœa, a third of phagedæna, these forming the largely predominant, though perhaps not the universal characters of the diseases produced in the respective parties; and if, in addition to the above, I find venereal sores produced where venereal diseases did not exist; in other words, that venereal sores are occasionally of spontaneous origin;—I feel justified in deducing from these facts, for facts I believe them to be—that, however distinct and individualized may be the character of the disease when formed, the poison which produced it had not distinctive characters, from which may be inferred with certainty the nature of the product. This, at least, is my opinion—an opinion which I have not hastily adopted.

Mr. Welbank has concluded his letter by reference to the labours of Mr. Hunter on this interesting subject, claiming for him the gratitude of posterity. Who could venture to dispute his claim? Who could read his work on the Venereal Disease without offering his tribute to the patient and unprejudiced investigation, the dispassionate reasoning, and the simple but able description, which characterize it? In acknowledging, however, with all grace, the rich stores of information which he has furnished us, I only desire that justice be done to others, in acknowledging that the labours of Mr. Hunter have effected much, I only deny that he has done all; and I would ask Mr. Welbank, or any other member of our profession, well informed on venereal disease, whether were he content to rest on Mr. Hunter's work as the guide of his future practice, he would acquire such knowledge as would give him confidence in the management of one-third of the venereal diseases he is required to treat.

If Mr. Welbank's extensive opportunities have convinced him of the existence of a variety of venereal poisons, he himself could form the best comment on the competency of Mr. Hunter's book as a guide to treatment; for Mr. Hunter was acquainted with but one; yet, according to Mr. Welbank, he must have seen all. We reasonably infer that he knew but one, for he describes one only. The present existence of the Hunterian chancre is but a small item in the question. The most important and the most interesting of all questions is that of determining the forms of disease for the cure of which mercury is indispensable. And here it is that Mr. Car-

michael and the army surgeons have acquired a just and honourable renown. In the treatment of every variety of venereal disease Mr. Hunter had but one remedy, viz. mercury, the remedial influence of which formed with him a test of their genuineness. But a large proportion of venereal sores, including the common venereola of Evans, and the various forms of phagedænic sore, are notoriously curable without mercury. These are the diseases that greatly predominate in practice, both private and public; and to these I submit that the description of disease appropriated to Mr. Hunter does not apply.

Mr. Evans says that the venereola predominates in a proportion of nine-tenths of all venereal diseases, a statement which I do not imagine Mr. Welbank will dispute; yet the venereola is characterized by appearances in many respects diametrically opposed to those of the Hunterian chancre, being destitute of induration, and is perhaps still farther removed from it as regards the exigencies of treatment. But besides venereola we have phagedænic primary diseases, and non-venereal sores, leaving a proportion of about one-fiftieth of venereal sores to bear the stamp and impress of the true Hunterian chancre. Yet Mr. Hunter *gave mercury in all, and says that primary induration* is a common attendant symptom.

The laudation of Mr. Hunter's work on venereal disease appears to me an effort of especial grace on the part of Mr. Welbank, himself the author of a pamphlet on syphilis, which subject I presume he may have selected, as the only form of primary sore untouched by the masterly hand of Mr. Evans. But Mr. Hunter knew nothing about a "plurality of poisons," he speaks but of two primary forms of disease, the "gonorrhœa" and the "chancre." If a plurality of sores exists now, (and that it does I have no doubt,) it existed in all human probability half a century ago, viz. at the time of Mr. Hunter's labours. If Mr. Hunter's description be founded in nature, then were there in his day no "plurality of sores," for he describes but one; if, on the other hand, a plurality be established, then was his description so imperfect as greatly to detract from the merit of his work, which, notwithstanding the labour and care bestowed on it by its author, will not rank among the foremost of those works which are destined to convey to posterity the splendour of his name.

I am, sir,
Your obedient servant,
FREDERIC C. SKEY.

14, Charter House Square.
Oct. 28th, 1839.

MEDICAL GAZETTE.

Friday, November 1, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

THE COMPLETED REGULATIONS FOR STUDENTS.

THE College of Surgeons having just issued the regulations by which all henceforth who wish to obtain their diploma must be content to abide, we are now enabled to afford our readers, in a brief sketch, an account of the demands for previous education which each of the four medical establishments of the metropolis makes upon the candidates for its honours or its privileges.

To be examined for the license of the Royal College of Physicians, a candidate must be twenty-six years old, and have studied medicine for five years; he must have attended medical practice for three years (of which one at least must have been passed in this country), in a hospital with not less than 100 beds; he must have attended lectures on anatomy, medicine, forensic medicine, chemistry, materia medica, botany, midwifery, and surgery; he must pass satisfactorily an examination in translating Latin (at least), and three others in writing and *vivâ voce* on anatomy, medicine, and therapeutics, which are held on three separate days. Practitioners 40 years old, or upwards, are examined on presenting satisfactory testimonials, without reference to their education.

No restriction is made of the schools or hospitals to be attended.

The license of the College of Physicians makes its possessor a Doctor, with liberty to practise whatever and wherever he pleases (provided he does not trench on the rights of apothecaries), and guarantees him the defence of the College against opponents unauthorized to practise, provided he himself practises in London, or within seven miles thereof.

A candidate for the license of the Apotheearies' Company must be 21 years old—have been apprenticed to an apotheeary for five years, and have studied, by lectures and practiee, for parts of three years; he must have attended lectures on anatomy (leetures and demonstrations), chemistry, materia medica, medieine, botany, forensic medicine, and midwifery; he must have dissected, studied practical chemistry, attended clinical lectures on medicine, and seen the medical practice of an hospital for eighteen months. His examinations are in translating a small portion of Latin, and in *vivâ voce* answering of questions on all the subjects which he presents eertificates of having studied, and oecasionally on some others.

His license confers on the successful candidate a right to practise as an apothecary in England and Wales, and guarantees him a defence against unlicensed opponents.

For the diploma of the College of Surgeons a candidate for examination must prove that he is twenty-one years old, and has studied his profession for at least four years. He must have attended leetures and demonstrations on anatomy for three seasons; leetures on surgery for two seasons; and on medieine, chemistry, materia mediea, and midwifery, for one. He must have attended medical practice six months, and praetical pharmaey six months, and surgical practice for three years (exclusive of three months' vacation in each.) The only restrictions made on the schools or hospitals are, that they must be in the United Kingdom, that the latter must be recognised, and that the teachers of anatomy and surgery should have been themselves examined and approved by the College.

The examination of the Colïege of Surgeons rarely extends beyond *vivâ voce* questions in anatomy and surgery, with practieal demonstrations of the bones and some simple parts. Neither Latin, nor any other general acquirement, is demanded.

Candidates for the Doctor's degree at the London University must be 23 years old, and bachelors of medicine in this or some other recognized university. For this preliminary bachelor's degree, a candidate must have previously studied medicine for four years, of whieh one at least must have been passed in this country; he must have taken a degree in arts in this or some other university, or passed a matriculation examination in mathematics, history, classics, natural history, and natural philosophy; he must pass two examinations, one at the end of his second, and the other at the end of his fourth year of study; the first consisting of anatomy and physiology, chemistry, botany, and materia mediea; the second of physiology, pathology, therapeutics, hygiene, surgery, medicine, midwifery, and forensic medicine, on six at least of which subjeets he must have attended a eourse of leetures; he must have dissected altogether fifteen months; have attended to praetical ehemistry, pharmacy, and midwifery; have seen the surgieal practice of a hospital for twelve months, and the medical practiee for twelve months (eaeh with elinical lectures), and after these, dispensary praetice for six months. Eaeh of the two examinations oecupies six separate sittings, viz. four in eaeh, by written papers, for three hours each, and two in

each by *vivâ voce* questions, of uncertain length.

At the University of London, for the doctor's degree, subsequently to receiving that of bachelor of medicine, a candidate must have attended two years' hospital medical practice, or have passed some proportionate time in the private practice of his profession. He must pass examinations in intellectual philosophy, logic, and moral philosophy, (unless he have previously taken a degree in arts), and in medicine, at two sittings for writing, of three hours each, and one for *vivâ voce* questions, for an unstated length of time. The diploma of the London University is only honorary.

Thus, in a few lines, we have the essence of the laws that it has cost years and years of toil to make; these are the several systems which four distinct bodies of professional gentlemen have invented to maintain the honour of their science, and to guard, as far as they may, the interests of the public. The history of the changes which have at last, and we sincerley hope, for a long time to come, settled into the schemes that we have briefly described, would be interesting enough, but too long to be condensed into our present space; it is contained in our past volumes.

The most remarkable change is that of the increased liberality of opinion (as far as we can judge by its expression) which now pervades all the authorities, with regard to the circumstances under which medicine may be efficiently taught. It is only a few years since metropolitan schools were deemed essential by all the boards who took upon themselves to superintend the medical education of students; now, no one of them adheres to such a restriction: the College of Surgeons, which stood out longest against the levelling, at last joins in the common cession of privilege (for to its examiners, who are for the most part London teachers, the exclusion of others was a privilege which they might have retained with advantage to themselves) and unites in the common invitation to men of all parts of the kingdom — "only assure us that you have studied so long, and in this form—pass our examination—and you shall have our diploma, with whatever benefits it may afford you."

It is a remarkable fact, connected with the above regulations, that the College of Physicians is now the most open, and the London University the most exclusive of all the four institutions.

The parties to whom the present liberality of system is the most important, are the practitioners and pupils who reside in or near large provincial towns, containing hospitals or infirmaries recognized by the Boards of Examiners. Pupils may now complete their whole course of education at such schools, without incurring any of the inconvenience or expense of a prolonged residence in London. What effect this removal of instruction will ultimately have, it is difficult to foresee. It is very improbable that medicine will ever be taught so completely or so well in the provincial towns as in London; the attraction which various considerations afford to induce the best men to settle in London, will always operate as forcibly on medical practitioners as on the professors of any other science or art. And again, the competition that must ever exist in a metropolis capable of maintaining twenty medical schools will always insure greater exertion, and a more accomplished class of teachers, than those who will be found in provincial towns, in most of which there will be only one school.

But this matter needs no argument; if we look over the lists of teachers in the provincial schools, we do not commonly find well-known names, nor even those of the practitioners of most emi-

nence in the towns where such schools are. Indeed it is evident that the activity of a large provincial practice will always prevent its fortunate possessor from encumbering himself with the engagements of a lecturer.

The College of Surgeons has also recently been induced to adopt a farther important measure; the examination of every new teacher of anatomy and surgery. This plan is indeed the only guarantee they can have to prevent pupils from becoming practitioners with even a less share of knowledge than some already make shift with—for, as we have often shown, a dependence upon examinations alone will constantly be found erroneous. Even with this guard, however, it will be necessary to render the examination more strict in exactly the same proportion as the education is permitted to be more lax; and especially we hope that each succeeding year will find the examinations at all the Boards, more practical, and more close tests of that knowledge which may be demonstrated.

The four diplomatizing companies having now fairly started, and in a way in which they cannot but be competitors, it will be interesting to observe their several progress. Some years must probably pass before the public will appreciate their differences and relative advantages, or cease from habit to expect the majority of practitioners to be surgeons and apothecaries. But after that time has passed, it is, we think, quite uncertain what will be the favourite diploma. The apothecaries, if they retain their privileges, will have of course a large number of compelled licentiates, but between the three other corporations whose diplomas are all virtually little more than honorary, no foresight can determine the result. That the general result to the public will be beneficial there can be little doubt, but through whose medium the benefit is chiefly to be dispensed, is a problem to the solution of which time alone can bring us.

TWO CASES OF ARTIFICIAL ANUS FORMED IN THE LEFT LUMBAR REGION.

Case 1. — Madame D., aged 48, of a nervous and sanguine temperament, had been subject to constipation for many years. She had stools with intervals of seven or eight days between them, and never without the previous use of clysters. They were often accompanied with sharp pains about the rectum, and more or less abundant discharges of blood. Sometimes there was sudden hemorrhage from the anus, without its having been preceded by any kind of effort.

The catamenia ceased about two years ago, and their disappearance was gradual.

About a year ago Madame D. consulted M. Amussat, who ascertained that there were polypous vegetations in the urethra, and excised them.

Madame D. always had the appearance of good health, and her functions were well performed, with the exception of the painful act of defecation. About the beginning of last May she was attacked with more obstinate constipation than ever, accompanied by sharp colic. It was in vain that clysters and baths were employed; it was in vain, too, that Dr. Barras administered the most powerful purgatives; nothing could overcome the retention of the fecal matter.

Under these circumstances, M. Amussat was called into consultation. He examined the rectum, with the intention of extracting the hardened fæces which might have accumulated there; but he soon found that the rectum was entirely empty. As he supposed that a crural hernia, on the right side, of old standing, contributed to keep up the symptoms, he tried to reduce it, and succeeded without difficulty. It was soon pushed down again, however, by the violent contractions of the abdominal muscles.

Mad. D. suffered from dreadful pain in the bowels, so that she uttered the most piercing cries, as if in the agonies of a difficult labour. There had been complete interception of the alvine evacuations for twenty-six days. The desire of going to stool was incessant. Ascending douches were thrown into the rectum, but this remedy failed, like the treatment hitherto employed; as also did galvanism. M.

Amussat, made anxious by the situation of the patient, in his turn requested a consultation, which took place on the 1st June, the practitioners present, besides himself, being MM. Barras, Fouquier, Bresehier, Reeamier, and Puyoo [by whom the cases are reported].

During the consultation M. Amussat again examined the reetum. He introduced his finger into the anus, at the baek of the thighs, and carried it as high as he could into the reetum, an assistant pushing his elbow. In this way he aseertained that at the upper part of the reetum there was a hard and rounded tumor, not very moveable, and nearly twiee the regular size of the neek of the uterus.

M. Amussat eommunicated to the other praetitioners the result of his examination, and this result was specially confirmed by M. Recamier, who is well known to be gifted with a prccision of touch that has often cnabled him to form the most unexpeeted diagnosis.

The meehanical obstacle to the discharge of the fæces being thus aseertained, nothing remained but to establish an artificial anus. The absolute necessity for this operation was unanimously acknowledged. It was evident that this was the patient's only chance of safety, and that the well-known maxim of Celsus was applieable, *Satius est enim anceps auxilium experiri quàm nullum.* It was resolved, therefore, that the operation should be performed the next day. M. Amussat had already made his choiee between the two modes of operating recommended by Littre and Callisen.

The former method has nothing but failures to show, except four or five cases carefully preserved in the annals of science; and yet it is the only one reeommended in the schools. The second had hitherto been only theoretical, and was branded with general reprobation. M. Amussat had endeavoured to reinstate it in public opinion, in one of his papers on the disease of Broussais, because it seemed to him at onee the most rational and the easiest method. He had eonsequently resolved to put it into exeeution when the opportunity offered; but however fixed might be his prineiples, it was neeessary to convince his colleagues of the superiority of this method of operation.

Before the hour fixed for the operation, MM. Reeamier and Breschet were present at the Hôtel-Dieu at the trials of the two methods in question, whieh M. Amussat performed before them on the dead body. These trials were discussed with all the interest ealled forth by the important ease to whieh they were applieable. The result was, that the spot pointed out by Callisen was to be preferred, sinee the danger of wounding the peritoneum was thus evidently avoided. The question, as discussed, suggested to M. Breschet the idea of exposing the eolon, by following the method adopted by Abernethy in tying the external iliac.

Just before Madame D. was about to be operated upon, catheterism of the intestines was tried, as a last resource, with a pewter sound of large diameter, but without success. Moreover, the attempt had been previously made with an elastic gum sound to pass the part of the canal occupied by the tumor.

The patient was suffering under the following symptoms:—

There was nausea, with almost eontinual vomiting and hiecup. The abdomen was painful on pressure, and much swelled, and its circumferenee was almost doubled. There was eonstant return of cutting pains, accompanied by the most cruel illusions. The faee was red, thirst great, speeeh short, anxiety extreme.

It is easy to see how imminent the danger was beeoming.

Madame D. earnestly requested that the operation should be performed. She was placed on a bed somewhat raised, the anterior part of the body resting on cushions.

Those present were struck by the prominence formed by the accumulation of the fæees in the left lumbar region.

A transverse ineision, about four inehes and a half in length, beginning at the external edge of the mass eommon to the saero-lumbalis and the longissimus dorsi, was made in the left ilium, two fingers' breadth distant from the superior crest of the os ilium. The course of this incision eomprised the thickness of the abdominal parietes, as well as the layer of cellular substance and fat in which the kidney is imbedded, and against which the posterior part of the lumbar eolon reclines. This intestine being very much distended, showed itself, as it were, spontaneously between the lips of the wound. It was easy to reeognize it by the disposition of its fibres and its violet tint.

Two slender arteries alone required torsion. A needle with waxed thread was passed aeross the most projecting part of the eolon, to hinder it from sinking and shrinking baek when opened.

A troear was then plunged into the intestine, and the eanula immediately gave vent to gases, and to liquid fæcal matter.

Lastly, a bistoury was directed along the eanula, and the eolon was cut into transversely for about an inch and a half, on which the fæces suddenly burst forth.

Three large basins were filled with the product of this evacuation, whieh were more or less fluid, spouting forth almost

continually, and exhaling a very fetid smell.

Injections of tepid water were thrown along the intestine in both directions, and they brought away a considerable quantity of very consistent fæces, covered with thick mucus.

It will be easily conceived that this enterotomy was followed by prompt and well-marked relief. The congestive colour of the face immediately disappeared, and the abdomen gradually regained its ordinary size. When the abdomen seemed sufficiently relieved, the edges of the opening into the intestine were seized by means of three torsion forceps, and brought to the level of the external incision, as near as possible to the anterior angle of the latter.

Four stitches of the interrupted suture, two being on the superior margin of the incision, and two on the inferior, finally fixed the colon. A fifth stitch was applied between the opening into the intestine and the posterior commissure of the incision made in the skin.

M. Amussat occasionally pointed out that the stitches which he made with acupuncturation needles merely caused an almost imperceptible sensation of pricking.

The wound was covered with a small poultice, and a larger one was placed upon the abdomen.

No particular symptom appeared during the day, only a great prostration of strength was observed.

The night following the operation was passed quietly.

The next day, the 3rd of June, great sensibility began to be remarked in the right iliac region, and the circulation was quickened.

On the 4th, inflammatory symptoms appeared in the hernia already mentioned; no doubt, from its sharing in the general turgescence of the organs contained in the abdominal cavity. Redness, heat, and swelling, were perceived in it, and the signs of strangulation were threatened. There was a very acute nipping pain in the hernial tumor shooting towards the whole abdomen. Madame D. began to be much alarmed by the fear of having a new operation to undergo. The pulse was frequent and concentrated.

Leeches were applied to the inflamed part, and the patient was repeatedly placed in the hip-bath.

On the 5th, these formidable symptoms continued in all their severity. Cupping was thought necessary; and as the relief obtained by it was not sufficient, leeches were again applied.

On the 8th of June there was a marked amendment in the hernial inflammation; and from this day forward all the signs of strangulation gradually disappeared. The crural tumor, which may be supposed to be caused by a portion of omentum, remained hard and indolent.

As to the wound, the day after the operation the mucous membrane of the colon formed a slight puffiness there, jutting two or three lines above the edges of the incision made in the integuments. The fæces were not at all stopped in their course by this puffiness, which only lasted three days.

The ligatures and threads used in the sutures came away about the sixth day. Agglutination had already begun between the edges of the wound and the intestines.

After having employed emollient lotions for a week, the part was sprinkled instead with wine and water in equal quantities, which cleared the surface of the wound without irritating it. Not the slightest erysipelatous blush was observed round the external incision, which went on rapidly to cicatrization, and closed entirely, with the exception of a rugous aperture corresponding to the intestine.

The fæces are figured, and are voided by the artificial anus; they are retained perfectly by means of a simple bandage fastened round the body, which Mad. D. loosens when necessary.

The somewhat premature expulsion of the fæces cannot injure nutrition, and the patient prevents their contracting the odour, *sui generis*, which they would obtain by a longer stay in the great intestine.

At present, four months after the operation, Madame D. is in the most satisfactory state of health: her appetite is good, and her complexion clear: she feels herself quite recompensed for the inconvenience of an artificial anus, by the recollection of the periodic tortures which she endured, and which often made her existence a burden.

Gases alone are now discharged by the natural anus.

Thus Madame D. owes her life to a surgical operation of great simplicity, which deserves to be rescued from the oblivion to which it had been condemned by theory.

In fact, Callisen's method, as we have already said, has the advantage over Littre's of avoiding any injury of the peritoneum. It is impossible to be wrecked on this shoal, particularly when operating on the living subject, while the intestine is distended by the stercoral tympanites, and the folds of the peritoneum are strongly put aside and back.

How is it that, in our best surgical works, and particularly in Dupuytren's article on anormal anus, a contrary opinion has been put forth?

In order to oppose Callisen's proposition, it has been urged that the skilful

surgeon of Copenhagen himself injured the peritoneum when trying the operation on the dead body: but it ought to have been added that Callisen having made a second incision more posteriorly than the first, no longer penetrated the cavity of the peritoneum. It is demonstrated that the peritoneum covers only the anterior part of the colon in the left lumbar region; but, in addition to the supposed danger of wounding this membrane, it has been alleged that the position of the colon is so uncertain, especially in children, that it might be difficult to find it, after having cut into the parietes of the abdomen. This objection has been repeated in every surgical work since Sabatier; but is far from being sound, as may be easily proved.

The colon in the left lumbar region occupies a determined situation, and is not floative, as has been asserted. This part of the intestine has not the mobility observed in the iliac colon, which is held in its place only by some very loose mesentery. This is an important distinction, as it answers one of the principal objections against Callisen's method.

M. Amussat, moreover, has introduced the following modifications:—

1. Instead of an incision parallel to the external margin of the quadratus, he makes a horizontal one, which renders it more easy to uncover the intestine, and carry it to the anterior angle of the incision.

2. The intestine is incised only in the posterior half of its circumference. This precaution will doubtlessly prevent the troublesome protrusion of the mucous membrane externally, and it will facilitate the cure of the artificial anus itself, when the obstacle which has opposed the expulsion of the fæces has disappeared. This kind of obstacle comprehends various causes susceptible of being removed or combated, such as hardened and accumulated fæces, polypi and other tumors, calculi, syphilitic vegetations, collections of different kinds in the pelvis, &c.

Thus art may hope to remedy the inconvenience which it has caused for the preservation of the patient; but, if we cannot hope to re-establish the natural course of the fæces, their new mode of passage will have a favourable influence on the morbid growths existing in the sigmoid flexure of the colon or in the rectum. The vitality of the tunics of the intestines being diminished, the pathological alterations of a scirrhous character situated in them will go through their final transformations more slowly; and this slackening in their destructive progress will be another benefit derived from the artificial anus.

Case II.—M. T. aged 62, and of a feeble constitution, was habitually inconvenienced by constipation and piles. Defecation was accomplished with extreme difficulty, and the fæces frequently accumulated in the rectum, so as to render it necessary to extract them. The stools were generally passed with blood.

For the last three years, in addition, the fæces were mixed with purulent and ichorous mucus, and exhaled a very fetid odour. The different methods of treatment adopted for this serious affection, which seemed to be seated in the great intestine, were of no advantage.

M. T. consequently determined to come to Paris, about the 15th of May, 1839. His strength diminished every day, and he was extremely thin; and when the stools came away after the constipation, which was continually increasing in obstinacy, he felt excessively exhausted.

Dr. Foville being consulted, examined the rectum, where he ascertained that at the distance of two inches and a half from the sphincter there was a carcinomatous tumor, which had ulcerated, and which in some measure blocked up the intestine. This tumor was formed by a scirrhous prominence in the shape of an irregular ring studded with knots, into which it was difficult to introduce the end of the forefinger. On inserting a *porte-empreinte*, it was found that there was a stricture an inch and three-quarters in length. The obstacle which had stopped the course of the fæces, and the real source of the morbid secretion, were now ascertained. The correctness of M. Foville's diagnosis was acknowledged in a consultation at which MM. Recamier, Amussat, Breschet, and Puyoo, were present. Different modes of treatment were proposed. Both dilatation and the use of a ligature were rejected. Excision was equally objected to, as it was feared that even a slight hæmorrhage might be fatal to a patient who was already so remarkably weak.

The method finally resolved upon was to crush the tumor, which was proposed and put into execution by M. Amussat, on the 30th of May. The operation was performed with long forceps which pinched and crushed the most prominent points of the cancerous tumor. The patient felt scarcely any pain. Nothing came away during the operation but a small quantity of blackish blood mixed with ichor. A sort of fleshy detritus was discharged at the same time by the anus. It was thought proper to keep up a continued stream of cold water in the rectum, in order to prevent the occurrence of inflammatory symptoms.

Some sloughs or fragments of atrophied membrane came away in consequence of the efforts made to detach them.

A week after this operation it was agreed that to complete its effects, cauterization would be necessary; M. Amussat cauterized seven times, by means of a speculum and cylinders of caustic potash, with intervals of three or four days between each application, without any sign of inflammation appearing about the bladder or peritoneum.

Each time that the patient was cauterized, small refrigerating clysters were prescribed. Under the influence, either of the crushing or the cauterizations, which were applied from below upwards, and from within outwards, the tumor was reduced to little more than half its size. Meantime, M. T.'s general condition grew worse. The stools did not occur till after a lapse of ten or twelve days, and then with such violence as to lower the patient till he nearly fainted. His attenuation was extreme, and the skin on the sacrum was on the point of ulcerating. Hence, it was not thought prudent to continue the cauterizations, which must have been multiplied, in order to destroy by successive layers what still remained of the tumor.

M. T.'s symptoms were so extremely serious, that the only alternatives were to abandon him to a speedy death, or to adopt the only resource of the surgical art in such circumstances. The operation for artificial anus, which had lately been crowned with success, naturally suggested the thought of trying it on the present occasion. The double object might here be attained of remedying the retention of the fæces, and obviating their action upon the diseased rectum. On the 13th of July, there was a fresh consultation, at which Dr. Seguin was present in addition, and at which the necessity for the operation was unanimously resolved upon. It was performed by M. Amussat on the following day, according to the method he had already followed.

An incision four inches and a half in length, at the distance of four fingers' breadths from the spinous processes of the vertebræ, was made in the middle of the space comprised between the last false rib and the superior margin of the os ilium.

Towards the anterior angle of the wound a membranous projection was observed, formed by the peritoneum, and below which seemed to be the small intestines.

The colon in the left lumbar region was strongly drawn back upon itself, and was covered in a great measure by the quadratus muscle, whose fibres it was necessary to cut across. The intestine having been taken hold of with the necessary precautions, was incised in about the posterior half of its circumference. Nothing came out but gases and some small balls of fæcal matter. The colon was then drawn towards the anterior commissure of the incision made in the integuments, and fixed there by four stitches of the interrupted suture. Three stitches of the twisted suture were then passed through, to bring together the lips of the wound, but leave the intestinal aperture entirely free.

There was no general reaction, so to say. The feverishness under which the patient had continually suffered for a long time, particularly towards the evening, was scarcely increased during the three or four days which followed the operation.

In spite of the opening thus made in the digestive tube the fæces did not immediately change their course; watery injections thrown into the colon passed entirely by the natural anus. The anormal orifice did not give vent to the fæces till the 18th of July, and the evaeuation was very copious. For some days the fæces continued to pursue their accustomed course, gases and liquids alone being discharged by the lumbar aperture. In order to dilate this orifice, it was necessary to employ, in succession, prepared sponge, elastic gum tubes, and at last wax bougies. These dilating substances facilitated the passage of the fæces by the artificial aperture.

To sum up, M. T. is evidently in better health than he was three months ago. He has been able to set off for his residence in the country. The hectic fever has disappeared; and the skin, which was yellow and of an earthy tint, is growing clear. All the functions have been re-established as well as so long and so great a deterioration of the system will permit. There is no longer any tympanitis, nor any forced stagnation of the fæces. The stools are regular, and figured fæces are expelled from the artificial orifice.

The tumor in the rectum has remained stationary; it has merely become harder, which must render it less capable of being irritated by the contact of the fæces, which may still continue to pass by the rectum, but which do so less and less every day.

Narcotic and chloruretted injections were indicated.

These operations speak in favour of Callisen's method as modified by M. Amussat. Shall we not be authorized in future to apply this method in cases of organic disease and insuperable stricture of the rectum? If it succeeded in the unfavourable circumstances under which it was performed, how many additional chances of success it will have, when surgeons have learned not to dread it, and when they have recourse to it before they have lost the moment for action by timid procrastination.—*Gazette Médicale*, Oct. 5th, 1839.

ON THE PRESERVATION OF SUBJECTS FOR ANATOMICAL PURPOSES.

BY

B. G. BABINGTON, M.D. & G. O. REES, M.D.

THE difficulty which has existed in supplying the Medical Schools of London with subjects for dissection has made it an object of much importance to discover a method by which human bodies may be preserved from putrefaction. This matter was more particularly brought to our notice last winter when great inconvenience was felt by the students, not only of Guy's Hospital, but of every school in London, from the insufficient supply of subjects for dissection.

There are, it is true, many methods now in use of preserving animal matter; and the processes of tanning, salting, pickling, drying, smoking, freezing, are so many familiar examples of those methods; but they are all more or less inapplicable to the purposes of anatomical science: thus, tanning, smoking, and salting, wholly alter the appearance and texture of parts; the corrosive action of acids is injurious to the instruments employed in dissection; and immersion in ice, which might possibly be practised, under favourable circumstances, in preserving whole subjects, would, independently of its expense and inconvenience, fail of its effect, when once the student had begun his work. The only antiseptic which is free from the foregoing objections is a solution of alcohol. This, it must be admitted, answers well for Museum preparations; but its powers are limited, and its injections into the blood-vessels, even in its most concentrated form, will not materially retard decomposition: moreover, it destroys colour; and when employed in sufficient quantity to admit of the immersion of parts, is too costly for common use.

Some simple experiments of a purely practical nature, which we were indueed to institute in consequence of the foregoing considerations, have led to a discovery, the application of which promises to remove one great obstacle to the study of a most important branch of medical education. Our attention was first directed to those chemical substances which were known to coagulate the blood; and we accordingly prepared strong solutions of the following metallic salts; viz. sulphate of zinc, sulphate of iron, and diacetate of lead. We purposely stopped short of the point of saturation, from a belief that the greater density of the fluid, in the case of salts so soluble, would impede its flow on injection. Infusion of galls was also adopted, from its powerful action in precipitating animal matters; and sugar in the form of syrup, being well known to possess preservative qualities, we thought it worth while to make trial of its capabilities. With each of these fluids a rabbit was injected, from the aorta; and another rabbit, killed at the same time as those which were made the subject of experiment, was kept, for the sake of comparison. They were all exposed to the air, in an open court; being merely protected from the weather by enclosure in a wicker basket, loosely covered with oil-cloth. At the end of three weeks, they had become putrid; and we could not perceive that, in any one instance, decomposition had been materially arrested. We were aware that arsenic and the bichloride of mercury both possessed considerable antiseptic powers. A solution of the former had indeed been tried with success at Guy's Hospital, in the previous year; but the poisonous qualities of these substances rendered them, in our opinion, as well in that of others more nearly interested in their employment, decidedly objectionable.

The total failure of our attempts had nearly discouraged us from proceeding further, when it occurred to us that the preservative powers which exist in certain hydrocarbonous fluids offered some probability that they might be turned to account in the prosecution of our object. Creosote and pyroxylic spirit more especially attracted our attention; and as the former was too expensive to admit of its having been advantageously used alone, we combined it with thrice its bulk of solution of gum-arabic. Two rabbits were injected; the one with pyroxylic spirit, the other with this mixture; and exposed to air, with protection from the weather, precisely in the same manner as was practised in the former experiments. At the end of two months, from the 30th of November, when the injection was performed, these rabbits were examined at Guy's Hospital, and declared, by all who saw them opened, to be as perfectly free from putridity, and as fit for all the purposes of dissection, as on the day when they were killed. It should be stated, that in these instances, as well as in the experiment with infusion of galls, a portion of fluid was injected *per anum*.

Having thus far perfectly succeeded, we resolved to obtain permission from the Hospital Authorities to make a direct experiment on the human subject, as soon as the weather became warm enough to test our method with sufficient severity. In the course of the spring, we were permitted to avail ourselves of the following opportunity.

On the 15th of May last, a convict at

Woolwich, 23 years of age, died of inflammation of the bowels; and on the 18th, his body was sent, by order of the Inspector of Anatomy, to Guy's Hospital, for dissection. It was neither œdematous, nor in a state of decomposition; and although the integument was somewhat fat, it was, upon the whole, in a fair condition for anatomical purposes. On the 21st, a gallon of pyroxylic spirit was injected into the aorta; and the body was placed in a water tight shell, or trough, made of slate, and loosely covered with a wooden lid. This trough was deposited in a cellar, the stone floor of which was about two feet below the surface of the ground. On the 29th the lid was removed, for the first time, and the body was found to be perfectly fresh. On this occasion, the flesh of the extremities was remarked to have become somewhat firmer than when the injection was first made. From the 29th of May to the 12th of June, the subject was examined, by removing the lid of the trough every two or three days; and no change was perceptible until the latter date. At that time the only sign of alteration was the appearance of two or three brown streaks—evidently veins—on the inside of the thighs; and a separation of the cuticle of the hands from the true skin, which began to assume a greenish hue. Every other part of the body was perfectly preserved, and of natural colour. There was no putrid odour on opening the lid of the trough, but the characteristic smell of the pyroxylic spirit was in some measure passing off. An incision into the middle of the right thigh, such as would be made in operating for popliteal aneurism, shewed that the fat, muscles, blood vessels, and nerves, were in a complete state of preservation. It should be observed, that ever since the injection of the subject the weather had been that of established summer; and that a second body received from Woolwich, was so decomposed in three days after its arrival as to be totally unfit for dissection. On the last examination, as well on two or three previous occasions, fluid was observed to occupy the bottom of the trough, and this it was thought advisable to remove: it was likewise determined to throw another quart of pyroxylic spirit into the aorta.

On the 24th of June, the body was removed to the dissecting-room, and placed on the table, for the purpose of being thoroughly dissected. With the exception of a greenish appearance on the outer part of the left thigh, and the brown streaks already mentioned, it appeared, when brought into the light, perfectly preserved. The skin on the back of the hands, instead of putrefying, had dried, and become transparent; while the greenness of the left thigh proved, on incision, to be quite superficial. The dissection was undertaken by eight gentlemen, and completed by the 13th of July; and it is testified by them all that every anatomical purpose was as fully answered as if the subject had been quite recent. The various parts, on being laid open, were of natural colour and of firm texture. The tendons and ligaments were silvery and white, and the nerves had lost none of their tenacity. The pectoral muscles alone formed an exception to the natural colour which was elsewhere maintained: this appeared to be attributable to the macerating effects of a wetted cloth that had been laid upon the breast, to prevent evaporation through the aperture by which the injection had been accomplished. The parts which were exposed by dissection gradually dried; changing, in the course of a day or two, to a dark colour, and instead of putrifying becoming hard. The brain, although it had retained its form, was soft, and semi-putrid, and unfit for demonstration: it must be borne in mind, however, that had the head been opened six days after death —at which period the subject was injected —this probably would have been the case. With the above exception, the viscera were all perfectly preserved: in proof of which, one of the kidneys, appearing, in colour and consistence, quite recent, was removed in the beginning of July, and after maceration in warm water, in the usual manner, was injected with wax. This experiment was made in order to ascertain whether the spirit produced thickening, or any other alteration, in the inner coat of the blood-vessels; which was found not to be the case, as the wax had fully penetrated the tissues of the organ.

Of the gentlemen engaged in the dissection of this subject, one complained that he at first suffered headache from the odour which it exhaled; and some, who were not so engaged, considered this to be more disagreeable than that of putridity. The same opinion is sometimes expressed with respect to the odour of parts that have been macerated in spirit of wine. Some allowance in favour of the pyroxylic spirit should be made on the score of novelty; and since its vapour is not poisonous nor injurious, any more than that of spirit of wine, it is to be presumed that the student would soon become accustomed and reconciled to it. In a first trial, upon the human subject, of the antiseptic powers of this fluid, a natural desire existed, on our parts, of watching its progress, and of noting such changes as might gradually occur. This led to the necessity of opening frequently the lid of the trough: and it has already been re-

marked, that this by no means accurately fitted the trough itself. The pyroxylic spirit being of a very volatile nature, it is obvious that its preservative qualities were much diminished by this proceeding. It is, therefore, not too much to expect that in an air-tight vessel a subject thus prepared would not exhibit even those superficial changes which took place in this instance, and would be preserved for an indefinite period.

The advantages of employing pyroxylic spirit are, 1st, its extreme fluidity, in consequence of which it may be thrown into the minutest vessels. 2dly, its freedom from colour. 3rdly, its cheapness; for a gallon is sufficient to inject a full sized subject: and even with the present limited manufacture of it, it is only half the price of alcohol; while it possesses infinitely greater antiseptic powers, and is, in common with that fluid, miscible with water, in all proportions. 4thly, its innocuous nature, and its freedom from any corrosive action upon steel instruments. We are not aware that there is any material disadvantage in its employment: the odour, it must be admitted, is more or less disagreeable to different individuals, but not so much so, to the generality of persons, as that of the putridity which it serves to prevent. Of this fluid, which must not be confounded with pyro-ligneous acid, or with pyro-acetic spirit, a full account may be found in the "Annals of Philosophy," N.S. viii. 69. That which we employed was procured from Morson's, in Southampton Row; and it may be had from any operative chemist*.

NEW PROCESS FOR THE SEPARATION OF ARSENIC IN ORGANIC MIXTURES.

By L. Malle, M.D.

Numerous experiments having convinced M. Malle that the ordinary processes (those of Hahneman, Rose, Fischer, Orfila, Rapp, and Taufflieb,) resorted to for the detection of arsenious acid in animal matters, are more or less ineffectual when the quantity of poison does not exceed one-tenth of a grain, he was led to investigate the subject closely, and now proposes the following method, as superior to those hitherto employed. The suspected matters, whatever be their nature, are to be placed in a porcelain capsule; any vegetable poison they may contain having been previously dissolved with alcohol and ether; a solution of hydrosulphate of ammonia is then poured on them, in order to transform into sulphurets the arsenic acid, and any other metallic preparations capable of undergoing such transformation, which may chance to be contained in the mixture. The liquid is then slowly evaporated, and the residue treated with alcohol saturated with ammoniacal gas, in order to precipitate organic substances, and dissolve the sulphuret of arsenic. The contents of the capsule are next filtered, whereby a fluid, containing alcohol, ammonia, and the sulphuret in a state of solution, is obtained. The whole is next placed in a retort, communicating with a mattress, and then heated in a water-bath, so as to distil over the alcohol and volatilize the ammonia. The residue is then treated with nitric and a little hydrochlorie acid, in order to destroy organic substances, and convert the sulphuret into arsenic acid and sulphuric acid. Once this is effected, nothing remains to be done but to separate the two acids by adding some ammonia and ammoniacal sulphate of magnesia to the liquid, which precipitates the arsenic acid in the form of an ammoniacal arsenite of magnesia. This precipitate is collected on filtering paper, and, after having been carefully washed, is reduced by exposure to a current of hydrogen gas, in a small tube, drawn to a fine point, as recommended first by Berzelius.

By this process M. Malle was enabled to obtain a metallic ring from half a pound of alimentary substances, to which five milligrammes* of arsenious acid had been added; in order to remove all doubts of the nature of the metallic substance obtained, it was placed in a small vessel, full of dry oxygen, and thus converted into arsenious acid, which again was precipitated with hydrosulphuric acid in the form of a sulphuret, soluble in ammonia. —*L'Expérience*, No. lxxxi., and *British and Foreign Medical Review.*

CASE ILLUSTRATIVE OF THE ETIOLOGY OF SPONTANEOUS AMPUTATION OF THE LIMBS OF THE FŒTUS IN UTERO.

By A. H. Buchanan, M. D.
Of Columbia Tennessee.

In the month of February last, I was called in haste to the country, about 3

* Guy's Hospital Reports, Oct. 1839.

* The milligramme is = ·0154 English grain.

miles, to see a negro woman who was said to be suffering from severe pain in the back, and uterine hemorrhage. She was the mother of ten children, aged about 40 years, and had miscarried three or four times. On my arrival, I found she had aborted, and that the uterine hemorrhage had ceased. Upon an examination of the fœtus, which was between three and four months old, and perfectly formed, except a considerable flattening of the head laterally, I found the umbilical cord twisted about the thigh and neck in the following manner: the cord passes from the umbilicus under the right thigh, just above the knee joint, and continuing completely around it, passes under itself, and ascends in front of the chest to the right side of the neck, around which it twines twice, or rather twice and a half, so that two coils are seen in front of the neck, and three behind; it then passes in front of the left shoulder to the placenta. From the compressed appearance of the cord opposite the left shoulder, I think it passed under the left arm-pit to the placenta. Thus circumstanced, it is evident that any efforts made by the child to extend the thigh tightened the cord about the neck, and also about the thigh, as well as dragged upon its umbilical extremity, and obstructed the circulation. The same effects also are produced by extending back the head; but in this last action, the placental extremity of the cord is immediately pulled upon. It is very fair to conclude that the fœtus thus situated came to its death, either from the compression of its throat by the cord, or from its obstructed circulation, or from both, and the abortion was in consequence of its death. At many points where the cord twists upon itself, it is very much compressed, or rather atrophied. But the object of communicating this case is to call attention to the effects produced upon the thigh by the twisting of the cord around it. It may be seen by any present, that at the point of compression, only the integuments intervene between the cord and bone, all the other parts having disappeared; but the limb below the ligature appears as fully developed as its fellow, and the integuments immediately under the ligature appear sound. Now it is highly probable, had the child lived to its full time, the leg would have been amputated by the process of absorption carried on in consequence of the pressure of the cord around the limb, and that the opposite surfaces would have healed, as is usual in such cases, during the process of amputation; the limb below the ligature retaining its vitality by its connection with the integuments, they being the last parts to give way during the amputation; that the leg below the knee-joint would have been more or less atrophied before its complete seperation is almost certain.—*Minutes of the Med. Soc. Tennessee*, May 1839; *American Journal.*

MEDICAL APPOINTMENT.

Dr. Ashburner has been elected Physician-Accoucheur to Middlesex Hospital.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Oct. 24, 1839.

Charles Radclyffe Hall, Congleton.—Jukes Stirrop, Worcester.—John Turner, Macclesfield.—Alfred William Warder.—Joseph Wagner Hodson, Staines.—Charles James Freeman.—Edward Toge Woodward, Liverpool.—Samuel Crompton, Manchester.—Robert Nesbitt Robson, Durham.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Oct.* 29, 1839.

Age and Debility	28	Bowels & Stomach	7
Apoplexy	1	Brain	1
Asthma	21	Lungs and Pleura	9
Childbirth	5	Influenza	1
Consumption	69	Insanity	1
Convulsions	13	Lockes Jaw	1
Croup	1	Measles	5
Dentition	10	Mortification	1
Dropsy	10	Small-pox	4
Dropsy in the Brain	11	Sore Throat & Quinsey	2
Dropsy in the Chest	4	Spasms	1
Erysipelas	1	Thrush	1
Fever	4	Unknown Causes	66
Fever, Scarlet	18		
Heart, diseased	1	Casualties	16
Inflammation	18		

Increase of Burials, as compared with the preceding week . . . 62

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Oct.	Thermometer.	Barometer.
Thursday . 17	from 32 to 54	29 97 to 29 98
Friday . . 18	47 53	29·81 Stat.
Saturday . 19	45 55	29 91 30·03
Sunday . . 20	32 57	30·00 29·95
Monday . . 21	49 57	29·95 30·12
Tuesday . . 22	50 55	30·05 30·04
Wednesday 23	49 55	30·01 29·98

Winds N.E. and N.W.

Except the 19th and 20th, generally cloudy; rain fell on the 18th, 22d, and following day.

Rain fallen, ·15 of an inch.

Charles Henry Adams.

W. Ogilvy, Printer, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, NOVEMBER 8, 1839.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.

INFLAMMATION.

Definition — Nature — External appearances — Condition of capillaries.

Gentlemen,—In the following lectures it may seem to some persons that I have encumbered the subject by entering too much into detail. I have, however, not taken this course unadvisedly; I have not felt justified in stating positive opinions, without giving the inquiring and industrious student the facts upon which the opinions are founded. Those whose indolence renders them indifferent to such facts may rest content with the opinion, and not trouble themselves with the facts. I am happy to bear my testimony in favour of the general industry and inquisitiveness of the present race of medical students, and it is simply because I have ascertained that they are no longer content to receive from their teacher dogmatical opinions, but desire, however much they may respect those opinions, to be furnished with the materials for judging for themselves, that I have adopted this course; and my experience of every day leads me to the belief that it will not be unacceptable.

The term *inflammation* expresses the analogy which was believed to exist between the morbid phenomena which it designates, and those which occur during combustion. It is a metaphorical term, by which it was sought to define the state of any part of the body where redness, heat, pain, and swelling, are manifested, at the same time that some change in the secretions of the part is brought about. Many attempts have been made to get rid of this term, and to substitute for it *irritation*, *hyperemia*, &c. We shall reserve the term, as conveying to our minds a morbid state characterized by increased vascularity, accompanied usually by an exaltation of sensibility, and always by a tendency to a secretion abnormal in quality or quantity.

The tendency of all observations accurately made in the present day is to establish an identity of the essential characters of inflammation, whether affecting one or another of the tissues of the animal economy. Convinced of this identity, and satisfied that the apparent differences are simply modifications dependent on structure, on idiosyncrasy, or other similar cause, I have determined, as a means of simplifying the comprehension of the condition, to consider only the essential characters, and to reserve those modifications until we come to consider the particular tissue or organ in which such modification is witnessed. In this way, bearing in mind the simpler characters, we shall have less difficulty in superadding one after another the modifications by which the phenomena are complicated.

Inflammation embraces an innumerable quantity of diseases—attacks all our tissues, all our organs, except the nails, the hair, the cuticle, and perhaps the articular cartilages—complicates the greater number of other diseases—develops the most singular phenomena, the most important sympathetic relations—presents the most varied terminations. Probably no remarkable morbid action occurs in the economy without inflammation; a solution of continuity, a wound, an ulcer, a contusion, a fistula, all require the presence of inflammation to remedy them. It is by determining inflammation that venereal and other virus appear to act upon the economy, either by exciting ul-

ceration or developing tumors. It is often by means of inflammation that the system rids itself of morbific causes; it is often the crisis of fevers; it is by exciting it that art obtains the cure of many diseases; it probably excites the development of malignant products; and it is from the consequences of it that the greater number of the human race die.

Inflammation is a condition of any part of the living body usually characterized by redness, heat, pain, and swelling, and susceptible of passing into other states—the state of health, or restoration of the functions of the part—the state of exudation, of suppuration, and of gangrene; it may pass through one of these terminations, as they are called, or several of them at the same time; it may end in the development of another disease, or by death. This definition, which is only an abridged description, is very preferable to all those vague ideas, founded upon physiological hypotheses which were previously current. Still it is far from being rigorously applicable to all inflammations; difference of tissue, difference of seat, of idiosyncrasy, the acute or chronic varieties, occasion considerable modifications. There are many which present no sensible tumefaction; others which offer no redness, tumefaction, nor heat, either appreciable by the thermometer, or perceived by the patient; some which do not occasion during life any other symptoms than pain and fever; sometimes not even pain. The only phenomena common to all—the essential element, as it were—is the afflux of fluids to the part. Generally, however, the symptoms enumerated are sufficiently united to enable us to recognise inflammation. Clinical observation is usually sufficient for the diagnosis of *acute* inflammation, except there be extraordinary complications; but clinical observation is often powerless to detect cases of *chronic* inflammation, which are prepared, as it were, in silence, and insidiously undermine the constitution; it is then that pathological anatomy unveils the extraordinary alterations which have been brought about, inconceivable, yet compatible with life, to which the patient must have succumbed a thousand times had they been rapid. The disease is masked, perhaps, under an appearance of languor and debility; tonics are administered; the complaints of the patient are scarcely listened to; he might, possibly, have been saved by an opposite course. Pathological anatomy always establishes the existence of chronic inflammation—not always when acute.

Hunter attached the idea of inflammation to pain, swelling, redness, and heat, when these phenomena were presented as depending upon a direct or immediate cause, and persisted for a certain time. He divided inflammation into five varieties or genera:—adhesive, which was subdivided into suppurative and ulcerative, œdematous, erysipelatous, gangrenous, and specific. Such were the principal divisions which Hunter admitted in inflammation; it is scarcely possible to say whether he considered them as varieties of the same phenomenon, which differed only in the parts affected, or were modified by temperament or determining cause—or whether he made them so many different entities. His ideas, so far as I can understand them, on the more prominent circumstances attendant upon this condition, I have collated and given in his own words. Thomson, who may be called the successor of Hunter, left to inflammation its four known characters—redness, heat, pain, and swelling. He rejected the distinction of causes into remote and proximate. He sought to distinguish the state of the blood vessels in inflammation. He found that vessels are developed, and that the course of the blood is sometimes accelerated, sometimes retarded in the inflamed parts. In that which concerns the local effects of inflammation, considered in its progress, its different periods, and the different tissues which it affects, he is very successful; then he follows the road marked out by Hunter—and he observes facts which are cognizable by the senses. Unquestionably he deserves to be consulted by those who are about to occupy themselves with an examination of the changes which supervene in inflamed parts—resolution, extravasation, suppuration, adhesion, ulceration, gangrene, the separation of eschars, and so on. I do not think that in all points he saw correctly, but I think he learned others to see better.

Redness is usually the first sign of inflammation; it varies from a slight rose to the deepest purple. The nature of the affected part has much influence upon its intensity and its shades; but the nature of the stimulus has perhaps a greater influence upon it. The red tint approaching to that of arterial blood is only observed when the inflammatory action is free; the purple or bluish tint is most commonly seen in inflammation produced by specific causes, and in this case it is sometimes of a coppery redness. As to the limits of redness, sometimes it gradually merges in the surrounding parts; sometimes terminates abruptly. It may be punctuated, striated, in patches, or arborescent. According to Hunter and Thomson the redness is always more decided at one point than others—from that point it gradually diminishes until it completely disappears. At first it is not decided; it is merely a slight rosy tint, like a blush upon the face.

At its commencement limited very much to the subcutaneous cellular tissue, it is only in proportion as the inflammation increases that the shades become deeper—in serous membranes this gradually increasing intensity can be easily followed. When the inflammation does not make very rapid progress, it passes through its stages with remarkable regularity, from a simple arborescence up to its diffusion in more or less extensive patches.

Pain is usually the first sign to which the patient's attention is directed, sometimes indeed it precedes redness, because it may be the direct exciting cause of it. It is also extremely variable in its character and in its intensity. A remarkable circumstance connected with it, is, that parts whose sensibility in the natural condition is inconsiderable, become when inflamed the seat of the most intense pain. It may be continued or intermittent—may suffer remissions or exacerbations of the most decided kind. In parenchymatous tissues it is usually dull and heavy, pungent in serous membranes, obscure in the mucous tissues, lancinating and pulsating in cellular structur, frequently only an inconvenient itching in the skin.

Heat is often very sensible to the patient, not always capable of affecting the barometer—is never superior in temperature to the blood at the heart: this is shewn by the experiments of Hunter. After exciting inflammation of the pleura in a dog, the peritoneum of a bitch, the rectum and the vagina of an ass, he discovered scarcely any elevation of temperature; but then it must be recollected that these are situations where the temperature is always high as compared with the surface of the body. On one occasion the thermometer inserted into the tunica vaginalis after the operation of hydrocele, indicated an increase of $6\frac{3}{4}$ degrees. Scudamore states that he has observed a similar elevation in gouty joints. Goupil has found that in cases of phlegmonous inflammation there is an elevation of temperature at the surface amounting from one to five degrees: he also ascertained that, as soon as the presence of pus is indicated, the temperature of the part undergoes a very sensible decline. It must not, however, be understood, because our thermometrical experiments have been so undecided, that there is not almost always an increase of temperature produced at the part. It is possible that any excess of heat may be dissipated, by those means which the living body unquestionably possesses of maintaining a remarkable uniformity of temperature. Besides thermometrical evidence of increase of temperature, the skin in an inflamed part is hotter to the touch than the surrounding parts—inflammation communicates to the part it affects a remarkable power of resisting cold: the ear of a rabbit inflamed by freezing could not be frozen anew (Hunter.) A phlegmon rapidly heats lotions applied to it—the patient experiences more heat if the skin be dry, and there be no evaporation.

Swelling presents as many varieties as the other signs—it varies with the intensity of the stimulus and with the texture of the affected part: the swelling of the testicle is a powerful illustration of this. In less than thirty hours this organ may acquire a bulk four, five, or even six times greater than is natural; the breast, the lymphatic ganglia, are also susceptible of enormous tumefaction. Usually in membranes the tumefaction is much less considerable, especially in the serous; they are often, however, apparently much thickened by the formation of false membranes. The tumefaction is sometimes circumscribed, at others diffused; its limits may be exactly traced or not.

Lobstein wished to establish four grades of inflammation which he termed *phlogosis*, *epiphlogosis*, *metaphlogosis*, *hyperphlogosis*. The first he restricted to that state in which the minute vessels were injected and apparent on a white ground. The second where the injection was more decided, the globules arriving even into the external vessels, accompanied by a lymph susceptible of coagulation, but without change of structure in the tissue. The third where the membrane was gorged, but without renitence or induration; the blood appearing not only to have distended the vessels, but even to have been extravasated into the cellular areola; the vascular ramifications being no longer discernible, the part resembling a red fleshy mass, blood may be exhaled on the surface. Chemosis gives a complete idea of this condition. The fourth where the tissue is greatly gorged, the resulting tumefaction being hard and renitent: if a mucous membrane be affected, the free surface is unequal and mamellated, cracked, excoriated, and suppurating; if a similar state affect the cellular or parenchymatous tissue it constitutes phlegmon which may end in abscess or gangrene. Though this division relates only to the form, he believed it justified by higher and more important considerations; that each had its proper character, its peculiar termination, and seems to have its predilection for particular tissues. *Phlogosis* attacks in preference the laminæ of the cellular tissue and serous and mucous membrane: it may be very intense, determining very grave symptoms, according to the nature of the affected organ; it may occasion death in a short time. After death it may present arborescent injections, or only extremely fine vascular ramuscles,

like interrupted streaks; or may present a material product in the form of a fluid, sometimes serous, slightly yellow, diaphanous, and a little viscid; sometimes turbid, like soap-water or whey. *Epiphlogosis* affects the same parts as phlogosis; its product is constantly a plastic lymph, uniting together parts between which it is interposed. In consequence of this circumstance it has obtained the name of adhesive inflammation. It does not pass on to ulceration or gangrene, except in some instances. In many cases this state succeeds to phlogosis; this happens in the skin after the application of a blister. That action by which the vesicle is produced is phlogosis; that by which the fibrinous stratum is produced is epiphlogosis; the effusion in hydrocele is a consequence of phlogosis. We cure it by producing epiphlogosis. *Metaphlogosis* prefers the cellular tissue, the parenchyma of organs, and the skin; it may terminate by resolution, not by induration; it has a great tendency to gangrene. Rubeola, scarlatina, erysipelas, are specimens of it. *Hyperphlogosis* attacks in turn, or simultaneously, the common cellular tissue, that of the parenchyma of organs, mucous membrane, skin, periosteum; it alone passes to suppuration. Frequently the same organs are susceptible of being affected by many modes of inflammation which have nothing in common but the seat. Thus croup, laryngitis, and phthisis laryngea, attack the same part, each being different in its course, its symptoms, and its termination. Upon the skin we see rubeola, scarlatina, variola—why are they dissimilar? partly, perhaps, because they belong to distinct modes of inflammation.

That these distinctions may have been worth something to so close an observer, as Lobstein, is probable—that they are worth little to other men is more probable. If they occasionally have a separate existence it would be a difficult matter to make them out. Generally I will venture to say that they are merely a progress of a common inflammation—or an occasional consequence of a specific one, or of the particular state of the individual.

In penetrating further into the nature of inflammation, we must examine, first, the irritation which directs towards the point an increased quantity of blood *(ubi stimilus ebi flexus;)* second, the phenomena which occur in the inflamed organ; third, the alterations which are brought about in the blood itself. *Irritation* may be produced by many agents—by a stimulus directly applied upon the organ—a foreign body in the eye—cantharides applied to the skin—a thorn forced into the flesh. Besides these there are others more subtile; syphilitic, variolous, or other virus. These stimuli give to the inflammation particular characters, and powerfully influence its symptoms, its course, its duration, and its termination. For instance, a person is exposed to cold; the perspiration which should have been eliminated by the cutaneous organ, is suddenly arrested; this matter returns into the circulating mass; it is separated anew by the action of secretion, and may be deposited on an irritable or sensible part, and inflammation may be excited there. If a specific virus such as that of variola, rubeola, scarlatina, acts upon the skin, the result will be different in each case. I admit that substantially the same change takes place as to congestion, alteration of the capillaries, and so on, but as to the vital changes we cannot deny that the operation is very different. It is not only by means of irritating agents from without that inflammation is excited, the humours of the system itself may undergo changes which may cause them to produce inflammation. Again, it may be excited by *continuity* of organs—be extended from one to the other; by *sympathies.* These depend sometimes upon nervous communications, sometimes upon the similitude of the organization, and so on. The sympathies of the first kind have long been known and admitted. The sympathies which depend on *similitude of organization* are those which are manifested when an irritation applied to one part is repeated in another whose structure is similar. Thus arsenic applied upon the mucous membrane of the vagina inflames it, and produces upon the mucous membrane of the stomach and intestines a similar inflammation; exactly as if the poison were swallowed. The sympathy through which inflammation of the testicle succeeds to inflammation of the parotid is inexplicable. Whatever be the mode of transmission of irritation, it is certainly the first phenomenon in the act of inflammation which should be pointed out, and if it be nothing else than the vital change which results from the perception of a stimulus, it follows that the nervous system is alone susceptible of being acted upon—of perceiving the action of a stimulus.

Though the causes of this condition are in kind infinitely varied, we may reduce them to two great classes—physical or chemical agents capable of including the irritating tissues of the body, their action being susceptible of demonstration; and vital agents, with whose immediate action we are less familiar. Some act rapidly; external violence, for instance: others slowly; high feeding, which gradually modifies the composition of the blood, impressing upon it new qualities, and causing it to become an irritant or excitant to our organs.

In what these changes of the blood consist it is not so easy to determine; chemistry lends us no assistance here; but a single inspection shews that it is richer in fibrin, and that it is covered with an inflammatory coat, termed *buff*. That this condition of the blood is irritating to the system, appears evident from the following experiment:—All the symptoms of impending inflammation are present; blood is taken from the arm, a certain quantity of fibrin is removed from the circulating mass, its place is to a certain extent supplied by diluent fluids absorbed from the mucous surface of the digestive system. This fluid thins the blood, its irritating qualites are rapidly diminished, the inflammatory symptoms subside, and a subsequent abstraction of blood yields no buff. In the one case and the other, the irritation, I apprehend, falls upon the nervous system of a part, or the whole of the body. By Bichat it was urged that the nervous influence has little to do with inflammation: he believed that the nerves have no influence on capillary circulation; that the organs, like the tongue, plentifully supplied with nerves, are rarely inflamed, whilst those which are almost insensible are more frequently affected. The answer to this objection is obvious—that if organs have no separate nervous cords, arteries which ramify in them are well provided; that though the circulation may continue in a paralysed limb, it soon loses much of its energy. That the irritation of a nerve does excite the circulation is shewn by the experiments of Sir E. Home, Krimer, and others: the former applied pure alkali upon an intercostal and pneumogastric nerve; the circulation was accelerated: the latter, after exciting inflammation in the web of a frog's foot, saw all the symptoms diminish, and the circulation completely arrested, the moment he cut the crural nerve. We shall now consider the evidence in support of the essential characters of inflammation.

"Inflammation," says Hunter, "has several well-marked peculiarities by which it may be distinguished." "I shall call by the name of inflammation whatever produces the following local effects: viz. pain, swelling, and redness, in a given time, and these dependent on, or the effects of, one immediate cause." "The act of inflammation would appear to be an action of the vessels; but whatever action it is, it takes place most probably in the smaller vessels, for it may be confined almost to a point where nothing but the smallest vessels exist. The larger vessels may be considered as only the conveyers of the materials for the smaller to act upon, and dispose of, according to the different intentions. However, inflammation in a part is not only an action of the smaller vessels in the part itself, but in the larger vessels leading to it. This is proved by what occurs in a whitlow, where, although the inflammation be confined to the end of a finger, we can feel, when we grasp the finger, a strong pulsation in the two arteries leading to the inflamed part, while no such pulsation can be felt in the other fingers. This strong action often extends to or beyond the wrist." "Boerhaave's leading doctrine was, that inflammation consisted in an obstruction of the minute vessels, in consequence of too great a spissitude of the fluids. But I will venture to say that any cause which can obstruct the motion of the blood for a given time will become a cause of inflammation; for either the cause of the obstruction itself, or the blood being retained in the smaller vessels for a certain time, will either irritate or unite the parts, or, where it irritates, will throw the vessels into such actions as naturally arise out of an extraneous irritating cause, but not an increased motion of the blood behind to drive on the obstructed blood through the vessels, as has been supposed." "The very first act of the vessels, when the stimulus which excites inflammation is applied, is, I believe, exactly similar to a blush. It is, I believe, simply an increase or distention beyond their natural size." "Inflammation in most cases appears to begin at a point, for at the very first commencement all the local symptoms are within a very small compass, and they afterwards spread after the violence of the cause." "Parts inflamed, when compared with other parts not inflamed, show a considerable difference in the size of the vessels, and probably from this cause bring an increased number into view. I froze the ear of a rabbit, and thawed it again. This excited a considerable inflammation, an increased heat, and a considerable thickening of the part. The rabbit was killed; the head was injected, and the arteries of the inflamed side were found to be considerably larger than those of the other side." "As the vessels become larger, and the parts become more of the colour of the blood, it is to be supposed there is more blood in the part; and as the true inflammatory colour is scarlet, or that colour which the blood has when in the arteries, one would from hence conclude, either that the arteries were principally dilated, or at least, if the veins be equally distended, that the blood undergoes no change, in such inflammation, in its passage from the arteries into the veins, which I think is most probably the case; and this may arise from the quickness of its passage through those vessels." "The increase of temperature in

an injured part is real. A man had the operation for the radical cure of hydrocele performed at St. George's Hospital. When I opened the tunica vaginalis, and immediately introduced bulb of a thermometer, the mercury rose to 92. Next day, inflammation being developed, the thermometer being again introduced, mercury rose to 94¾. Lord Hertford's servant was tapped the eighth time; fluid while flowing raised the mercury to 101; in twelve days afterwards it rose to 104." "What I would call œdematous inflammation is when the extravasated fluid is water. The extravasated fluid being principally the serum, renders the swelling more diffused than the inflammation itself." "From the connection between the living powers of the solids and fluids, we can hardly suppose that such an uncommon action could take place in the vascular system without producing its effects on the fluid; and therefore, from reasoning, we might suppose that the coagulating lymph undergoes some change in its passage through the inflamed vessels, which obliges it to coagulate more immediately or much sooner than it otherwise would." "If this lymph was no more than the coagulating lymph with its common properties, or the properties common to that which is circulating in the same vessel, it would in such cases only continue to throw in more coagulating lymph in addition to what was circulating; and therefore it would probably be carried on as a common mass." "From this should we infer that this coagulating matter is not simply the coagulating lymph, such as it is when circulating, but somewhat different from having undergone a change in its passage through the inflamed vessels." "In the adhesive inflammation, the vessels being enlarged, as before described, similar to what they are in the young subject, begin to separate from the mass some portion of the coagulating lymph, with some serum, and throw it out probably through the exhaling vessels, or perhaps open new ones." "If the divided parts are allowed to remain till the mouths of the divided vessels be entirely shut, inflammation will immediately follow, and will furnish the same materials for union which are contained in extravasated blood, by throwing out the coagulated lymph; so that union may still take place, though somewhat later, after the division of the parts." "Whether this coagulated lymph issues from the half closed mouths of the vessels which were cut, or from the surface of the opened cells, is not easily determined, but most probably it is from the latter." "In the extravasated matter I have seen a great number of spots of red blood in it, so that it looked mottled. How this red blood got there is the thing to be considered, especially as a good deal was within the substance of the coagulum. Was it extravasated along with the coagulating lymph? In this case I should rather have supposed it would have been more diffused; and if not diffused, more attached to the intestine, and not in the centre of the coagulum. If it had been extravasated, one would have expected extravasation or injection; but we had none in any of these places. I have therefore suspected that the parts have the power of making vessels and red blood independent of circulation. This appears to be evidently the case with the chick in the egg." Such were the opinions of John Hunter on the more important phenomena of inflammation, and little change can be made in them in the present day. Our improved means of investigation have, however, enabled us to confirm them. Two hypotheses are generally upheld on the subject of inflammation—the one that capillary action is increased; the second, that it is diminished, as compared with the trunks from which they proceed. As in most cases of the kind, neither party is exclusively right nor exclusively wrong. The partisans of the first opinion bring together all the demonstrations they can collect in favour of the doctrine, that the vessels possess a power independent of the heart. Thomson enumerates at considerable length those facts which seem to support that independence — such as the redness of the cheek in blushing, the determination of blood to the head in strong intellectual efforts, arterial pulsations in certain hæmorrhages, the development of the uterine vessels in pregnancy, the beatings of arteries near inflamed parts, the jet from a punctured artery near an inflamed part, the good effects of debilitating topics, &c. But the essence of augmented action in a vessel being contraction, how can we conciliate it with the repletion and turgescence of inflamed parts? To get rid of this objection, recourse has been had to an active expansion or dilatation, which draws the blood with more or less force from all parts, even against its regular course. It is under this banner that we ranged Hunter, Bichat, Hildenbrant, Burns. The opposite doctrine, far from admitting in inflammation an increased action of the capillaries, only sees in the dilatation which they experience an index of feebleness. This theory is supported upon the results of microscopic observation, in which there is the most singular concordance as to the stagnation of blood in the capillaries: this all observers have witnessed when inflammation was established after its characteristic features. Induction had indeed in this respect preceded experiment; for Vacca, who wrote at Florence in 1765,

sustained, that in any period of inflammation the vessels presented no other condition than those of atony and relaxation. Winterl, in 1767, at Vienna, emitted similar opinions. Callisen, in 1788, repeated them, and refers to experiments of which he indicates neither the circumstances nor the author. Schumlansky, in 1789, and about the same time, Lubbock, Allen, and others, maintained, more or less explicitly, that inflamed capillaries had lost all resistance, and were incapable of sustaining the impulse of the blood. Wilson Philip undertook the first positive experiments with the microscope, and gave a true sanction to those theoretical ideas: succeeding experimenters have confirmed them. Is it clear, however, that the dilatation of the arteries and the stagnation of the blood imply debility? Long dissertations have been framed to deny it, and to shew that the stagnation is simply the result of a convergence towards one focus, and a consequence of mechanical obstacles opposed to the onward progress of the molecules. However, so much remains demonstrated by experiment, that if the first effects of the action of a cause capable of producing inflammation is a manifest super-excitation of capillary action, this super-excitation is only as it were preparatory to the decisive period in which the action of these vessels is suspended or there is a complete absence of reaction.

The first positive *microscopic* experiments on the subject of inflammation were those of Wilson Philip (1801). From his experiments on different classes of animals it resulted that the capillaries of an inflamed part are in a state of dilation and feebleness, whilst the larger vessels, whose state can be observed without the microscope, do not suffer an analogous dilation, but by the strength of their pulsations indicate a very evidently increased action. In the dilated capillaries the circulation is retarded; a little after, the same state is extended to the neighbouring capillaries. The course of the blood is enfeebled and arrested, and gangrene may supervene, unless the capillaries acquire new energy, by which their equilibrium with that of the larger vessels is restored. Many experiments, made with great care, by Thomson (1809), gave results analogous, in most respects, with those of Wilson Philip, but they did not allow him to admit so absolutely the retardation of the course of the blood in inflamed capillaries. Thus, muriate of soda applied upon the web of a frog's foot, gave, as a first result, the augmentation of velocity in the large and small arteries, and in the capillary vessels, upon which the substance was directly applied; the globules became less distinct, and the rapidity of their movement rendered them less easy to follow than in the capillaries of an uninflamed part in the same animal: yet the reiterated or continued application of salt was always more or less speedily followed by a retarding or even a complete stagnation of the capillary circulation. The second general result of the action of salt was an apparent redoubling of the circulation in the arteries and veins, with a diminution of velocity in the capillaries. The third, and the most frequent result of the action of salt was a retardation of the circulation in the capillaries, the arteries, and the veins. From these and many other results he concluded that the circulation of blood, far from being always relented in inflamed vessels, is, at the commencement of inflammation, frequently accelerated; that a relenting in the circulation in inflamed capillaries may occur at the commencement of inflammation, and last during its course; that this relenting is much more frequently observed during the progress than at the commencement of inflammation. Gruithuisen's microscopic observations, in supporting the doctrine of the primary dilatation of capillary vessels, furnished to that ingenious experimenter the opportunity of making curious observations upon the formation of accidental capillary vessels. To verify the results given by Wilson Philip and Thomson, and to conciliate the differences between them, Hastings undertook a series of experiments, which are detailed in his Inaugural Dissertation, and his treatise on Inflammation of the Mucous Membrane of the Lungs. In the first he relates the following observations:—After plunging the leg of a frog for a minute into hot water, the circulation was found to be accelerated, and the vessels slightly contracted; the experiment was repeated, and with the same results: a third time the limb was immersed, and a very decided dilatation was observed in all the vessels; the circulation was retarded, and the congestion was so great that the globules of blood, which were before very distinct, formed only a confused mass. After applying ice to the part the vessels were seen to contract, the globules of blood were moved anew, and soon the circulation acquired its natural character. The experiment many times repeated, and it being regarded as a fact, that stimuli applied directly upon the vessels, at first excites and afterwards enfeebles their action, Hastings proposed to resolve this question—Does inflammation occur during the period of excitation or that of debility? In eight groups of experiments which he has detailed, he applied different mechanical or chemical agents upon the webs of frogs' feet, and day by day he observed, with the microscope, the progress and the

termination of inflammation. His conclusions were, that certain stimuli, applied to a part, increase the velocity of the circulation and the contractions of the blood-vessels. During this state of excitation, the part is so far from presenting any thing like inflammation, that the caliber of the vessels is diminished, and the part itself is paler. But if the application of stimulus be long continued, the small vessels, which, in their natural state, admitted only a chain of globules, become so dilated as to receive a large quantity of blood, less fluid having lost its globular appearance, and passing much slower than natural, the part then appears inflamed. If the stimulus be very intense it frequently happens that the debility of the vessels, and the retarding of the circulation, seemed to be produced immediately, and without previous excitement. If we intermit the application of the stimulus, a certain time passes before the vessels recover their contractile power, and are able to resist the impetuosity with which the blood is propelled into them by the heart and great vessels. The application of a stimulus different from that which has excited the inflammation, sometimes brings about a resolution, dissipates it; in these cases the vessels contract, the blood becomes more fluid, presents globules of a paler colour, and floating in a lighter fluid; and at length it acquires the same velocity it had before the experiment. If, on the contrary, the disease persists, the blood stagnates, becomes darker and darker, and the vessels are much dilated. When this high degree of inflammation persists, gangrene supervenes; the part is then softened, yields to the pressure of the finger; the stagnant blood acquires a brownish yellow colour, and the dead point is separated from the living. During the cicatrization of the ulcer, resulting from the separation of the eschar, the adjoining capillaries are much distended by arterial blood, which moves very slowly. After the cure they resume their original dimensions, and the circulation its ordinary velocity. There are no new-formed vessels, except a solution of continuity has been affected at the part. In that case the divided vessels, very dilated and filled with red arterial blood, deposit a white matter upon the surface of the wound; and it is in the substance of this matter that the new capillaries are formed, which soon communicate freely with those at the edges of the wound. These new-formed vessels were known to Hunter, but this great man has certainly not described the mechanism of their developement with the precision of Gruithuisen (1811). In the midst of the exuded matter, of which we have spoken, globules appear like so many red points, which enlarge by little and little, take a stellated form, the rays of which come into contact, and coalesce with other similar rays. From this results a union of a certain number of stars, constituting an areola or net-work. In fact, in this way a new capillary net-work is formed, which communicates on all sides with already existing vessels. All these delicate researches, the object of which is to establish the changes which the capillaries experience in an inflamed part, have been completed by the experiments of Kaltenbrunner: the experiments of Thomson and Hastings he repeated, and discovered circumstances which had escaped them, and, from the results he obtained, he drew conclusions differing, in some respects, from theirs. He divided the phenomena he observed into three periods, of which the first may exist alone, or in combination with the latter — congestion, inflammation, fever. The first, characterized by an afflux of blood, distending the capillaries, arteries, and veins, to double or triple their natural size, by the rapid passage of the blood through the capillaries, thus preserving its arterial character; but the congestion is modified by the causes which produce it; the formation and absorption of lymph are interrupted; it may gradually decrease until the circulation is restored to its natural condition, or the phenomena may become more intense and inflammatory; the normal secretions are interrupted; absorption is more energetic. As soon as the circulation is accelerated by inflammation, the quality of the blood begins to undergo certain changes. The arterial blood-globule no longer changes into venous, in its passage through these vessels; passing so rapidly forward they even preserve their arterial characters after their arrival in the veins. If the inflammation increase still more, the coagulability of the blood is so far augmented that its globules appear glued together, forming a species of clot. These clots arrive in the arteries, pass along the capillaries, and get into the veins. When the blood begins to stagnate the globules unite into a homogeneous mass, in which all trace of their former conformation is lost. In fact, blood-globules he thinks cannot exist, except in motion, and lose their circular form as soon as they cease to move. He has shown how much the nature of the irritants may influence the effect, the alteration of the blood, the tension of the vessels, and the extent of the affection. Thus, *mechanical irritation* is applied; the globules of blood are frequently glued together; there is a persistence of their arterial qualities; but the affection is not extended. *Hot water* produces acceleration of the cir-

culation, contraction of the vessels, abundant afflux of blood, globules enlarging and floating in a large quantity of serum, but the affection is more extended. *Dry heat* occasions acceleration of the circulation, and very remarkable contraction of the vessels, the globules are very red and frequently glued together; congestion is circumscribed; acceleration of the circulation is not very considerable; the globules are of a dark tint. He equally well observed and described the formation of stases. After a certain acceleration of the circulation, the movement is retarded, deranged, becomes uncertain; the blood seems to oscillate in its canals, then stops altogether and stagnates at different points. The stagnated points increase and trench upon the small veins, but rarely the small arteries. The stagnated blood does not entirely fill the vessels; it accumulates at some points, leaves others empty. He has also seen this stasis dissipated under a new stimulus, but often reappear, becoming larger than before. He has also shewn that the stimulus has its effect upon the colour of the blood. Muriate of soda gives the blood a deep purple colour, alcohol a bright tint, chloride of mercury a dull brown tint.

His mode of describing the formation of new vessels is unlike that of Gruithuisen: he states that when the circulation is accelerated the globules of blood are seen suddenly to escape from a capillary canal, fall into the surrounding parenchyma, make a way for themselves to pass along to another capillary canal; thus a new capillary canal is formed, the blood circulates in it; its formation is often the work of a few moments. The same phenomena are repeated at different points, and a rich net-work of new capillaries is thus formed, they inosculate with the old ones, dilate and assume the appearance of small arteries or veins, according as they are continuous with arteries or veins.

Prevost and Dumas showed that if we examine the capillary circulation in the web of the frog's foot, or in the bat's wing, we see the globules of blood moving in the vessels, and presenting themselves under different forms to the eye of the observer; and that the effects of inflammation may be thus studied, either with reference to the fluid traversing these vessels, or the action of the vessels themselves; but they did little more. Gendrin pursued his investigations at great length, and in the main with much exactness; he says, if a frog's web be placed in the field of a microscope, the red globules which circulate in the capillary vessels pass across the field in less than half a second. If the animal be agitated, their speed is increased, so that the passage may not exceed a third or a fourth of a second. If we irritate slightly with a needle the mesentery of a frog, the capillaries which before did not receive red blood readily admit them, and the coloured molecules traverse them as they do those of the web. In some seconds after the irritation ceases the quantity lessens, yet the capillaries, irritated by the contact of air, continue to admit the coloured parts of the blood. If we continue the irritation, either of the web or the mesentery, the blood flows towards the irritated point. The capillaries around this point are dilated, and seem to multiply, because the red fluid renders visible those which before were not seen. The globules arrive; their movement is retarded, and is at last suspended. The capillary circulation is then completely suspended at the irritated part, and for some distance around the retardation of the circulation and the dilatation of the capillaries are very evident. A little farther the circulation is more active; the still dilated capillaries and the globules of blood become more indistinct; at last, at the limits of the areola, the circulation is, on the contrary, accelerated, the capillaries dilated, and the blood richer in globules. All these changes are effected in four or five minutes. The same period of time is necessary for the cessation of these phenomena, if the irritation be continued no further, and the capillary circulation resumes its physiological state. If we produce irritation in the whole extent of a frog's web, by dipping in water at 70 degrees Reaumur, for four or five minutes, we observe a considerable acceleration in the capillary circulation, so that we can count under the microscope three passages in a second, and the globules are more numerous, and more in contact. This increased activity, occasioned by immersion in hot water, and the increase of diameter consequent upon it, diminish and entirely disappear within an hour. If we plunge the foot in boiling water, and leave it there a minute, the blood is immediately arrested in all the capillaries of the part which receive red blood; but in some seconds after the immersion we see numerous capillaries dilated and coloured, in which the circulation, much accelerated for some seconds, ends by becoming slower and soon completely arrested. When we cauterize with a heated stilette a point in the mesentery of a frog, the blood, which is arrested in the capillaries, dilated and injected around the eschar, is already in part decoloured at the end of ten or fifteen minutes. The greater tenuity of the vessels in this part than in others allows us to distinguish the phenomena of the decoloration of the blood in the gorged capillaries. The glo-

bules are seen to disembarrass themselves of the small coloured vesicle which covers them; this vesicle remains adherent to some, and even partly covers them*. At the end of two or three hours the whole mesentery seems converted into a tissue of vessels, in which globules are seen to move with great rapidity; but in the areola which surrounds the small eschar, the gorged vessels do not exhibit any movement in their cavity. Twenty hours after, the capillaries, gorged by a stagnant blood, are excessively numerous around the eschar; in some the blood is decoloured, and of a reddish yellow colour; in others it is quite red; the cutaneous tissue is become a little opaque and infiltrated. At the end of thirty hours there is an opaque appearance in all the inflamed tissue, which acquires a uniform reddish yellow colour; the focus of inflammation is extended. From the fiftieth to the fifty-fifth hour the capillaries begin to be decoloured; the fluid which fills them is yellowish red; they appear less dilated; the inflammation is circumscribed; and at the limits of the eschar a yellowish matter fills the capillaries. Towards the seventy-fifth hour the circulation is re-established in the gorged capillaries which limit the focus, but it is more rapid. There is so little distance between the globules, that they are with difficulty distinguished the one from the other. The eschar begins to be detached; the tissue which immediately surrounds it is opaque, and evidently softened; the principal gorged capillaries, which penetrate into its thickness, can be distinguished; some are of a greyish red, and dilated, without any appearance of circulation at their interior; others are of a greyish yellow, filled with a fluid of that colour, which moves very slowly, moving towards the eschar. This fluid presents globules of a greenish yellow, and others of a reddish colour. From the fourth to the fifth day the small eschar is detached; it leaves a solution of continuity, on the edges of which flexuous vessels, gorged by a greyish yellow decoloured fluid, are apparent. The tissue has become so opaque, that we can only distinguish these capillaries by the movement, slow, it is true, but incontestable of the globules in their cavities. At some distance from the little wound the circulation is entirely re-established, only it is still very slow. The sixth day the little solution of continuity is covered by a layer of a yellowish grey fluid, which appears to be without globules, and in the midst of which small striæ are seen, of a fluid substance, with rather voluminous globules. The fluid of these small lines does not appear to differ from that which is seen to pass slowly along the capillaries. The cicatrization is achieved towards the tenth day; then the circulation is re-established up to the limits of the wound; it is yet a little slow, but the vessels return to their natural size; the striæ are no longer of a yellowish grey, "evidently purulent," it is a yellow, rosy, globular, half-coagulated substance; their motion is very slow. When the cicatrization is complete the circulation is re established in the capillaries; they traverse the cicatrix very slowly, it is true, and they still carry some decoloured globules. We are now in a condition to inquire into, and to ascertain how those four signs—redness, heat, pain, and swelling, are produced, and what value we should attach to them.

* When we come to treat of suppuration, we shall state reasons for believing that pus-globules are not decoloured or transformed blood-globules.

CLINICAL LECTURES ON OPHTHALMIA.

By M. Velpeau.

Reported for this Journal, by

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Sorbon.

Non-existence of arthritic, rheumatic, or scrofulous ophthalmia as a specific disease — Truly specific nature of syphilitic ophthalmia.

Arthritic Ophthalmia. — As authors do not seem to care much about this form of specific ophthalmia, I shall only make a few brief remarks respecting it. I am myself perfectly convinced that what has been denominated arthritic ophthalmia by ophthalmologists is nothing else but iritis or choroiditis, or these two affections combined. My opinions on this subject are not formed *à priori;* they are the result of long-continued and attentive observation of disease. I have, it is true, sometimes seen the symptoms which are referred to this supposed specific form of inflammation in gouty patients, but I have much more frequently met with them in those who had never had that malady. Within the last three months, we have, as many of you well know, recognized these symptoms in at least twenty patients of all ages and of both sexes, and yet not one of them had ever been affected with gout, or even knew what the word meant. May we not also ask whether gout is a specific disease? This is a question which has not hitherto been satisfactorily

answered, and yet the specific nature of gout ought certainly to be determined before we can rationally be called upon to recognize an arthritic form of ophthalmia.

The principal symptoms which are given as indicating arthritic ophthalmia are the following:—The vascularization, which is formed by vessels larger and more tortuous than in the other specific forms of inflammation, is separated from the cornea by a greyish or bluish ring or zone, about half a line in width. The sclerotica is of a deep blue or violet colour, the iris of a greyish or dirty yellow. This latter membrane appears as if had been macerating in some fluid; and the pupil, losing its regularity of form, becomes elliptical transversely. The pain is acute and resembles that of neuralgia.

On analyzing these symptoms you will find that they are merely those which I described when speaking of iritis, together with some others which are referred by authors to inflammation of the choroid membrane. The increased size of the injected vessels does not depend on a gouty diathesis, but on their having become slightly varicose, and is merely a consequence of the inflammation. The blue tinge of the sclerotica shews either that the choroid membrane is inflamed, or that the sclerotica being thinner than usual, its colour is slightly modified by that membrane. This we see frequently in children, in young people of a lymphatic habit of body, and in those who are affected with hydrophthalmia. Lastly, the changes which take place in the colour and in the form of the iris are symptoms of the inflammation of that membrane. I need not, I think, say any thing further on the subject; these considerations are quite sufficient to authorize our definitively setting aside arthritic ophthalmia.

The specific forms of ophthalmia which we have yet to examine, being those to which ophthalmologists attach the greatest importance, must be studied with care. Before, however, I enter into any details respecting the rheumatic and scrofulous forms of ophthalmia, I have a few observations to make which are of some importance.

The existence of these two specific forms of ophthalmia cannot rationally be recognized unless it be first proved that scrofula and rheumatism are really specific diseases. But has this been done? has science come to a definitive conclusion with regard to the nature of these affections? I do not myself believe that it has; I think, indeed, that their nature is still unknown, and that their history requires revising entirely. This, however, I cannot attempt for the present, as the details into which I should be obliged to enter would lead me too far from the subject we are now discussing. I will merely observe that, in my opinion, scrofula and rheumatism only differ from other diseases by the constitution of the patient, and by the nature of the tissue which is the seat of inflammation. How, if I am correct, is it possible that they should always exercise such influence over inflammatory affections of the eye as to cause them to assume specific characters? To speak of the symptoms which are drawn from the vascularization only, how can we understand that the bloodvessels of the eye, the distribution of which is the same in every individual, should be injected in one manner in a scrofulous subject, and in another in a rheumatic subject? I must confess I cannot see how there can be any difference. I am quite willing to allow that rheumatism or scrofula, coexisting with an inflammatory affection of the eye, exercises more or less influence over that affection, as it would likewise over any other inflammatory disease; but I consider it absurd to assert, as it has been done, that a patient is rheumatic or scrofulous merely because the ophthalmia by which he is attacked presents certain characters, although he himself may offer no symptom whatever of either one or the other of these affections.

Rheumatic Ophthalmia.

This is one of those forms of special ophthalmia which are the most frequently alluded to by ophthalmologists. M. Sichel, in the description he gives of "rheumatic ophthalmia," says that its principal seat is the sclerotica, aponeurotic expansion of the muscles of the eye, and that portion of the conjunctiva which covers the cornea. He also says that in some instances it attacks the membrane of the aqueous humour, and the serous layer which lines the anterior surface of the iris.

In the first stage of the malady the sclerotica becomes slightly vascularized, the conjunctiva remaining healthy. The vascularization of the sclerotica is formed by numerous small vessels which run parallel to one another, are perfectly straight, of a pale carmine colour, and, converging as they approach the cornea, terminate at about the distance of a line from that membrane. At a later period the redness becomes deeper, and the injected vessels extend so as to form a zone which occupies a considerable portion of the sclerotica. At the same time a second vascular layer becomes visible, constituted by more superficial and more voluminous vessels than the one we have just described; these vessels are moveable, follow a tortuous course, appear of a yellowish red colour, and evidently belong to the conjunctiva. These two vascular layers form round the

cornea a double injected zone, the appearance of which is often followed by chemosis. The dread of light and effusion of tears are very intense. At a still more advanced period of the disease the portion of the conjunctiva which lines the external edge of the cornea becomes covered superiorly and inferiorly with small red streaks. The free margin of the eyelids is also often sympathetically affected, and assumes a bluish red tinge. If the inflammation does not abate, it sometimes extends to the corneal conjunctiva, which then becomes more or less vascularized, and presents a milky white appearance; the vessels which give rise to the vascularization seem to communicate with those of the conjunctiva. When this is the case sight is always more or less impaired, indeed sometimes it is entirely lost.

Ophthalmologists also speak of a "rheumatic keratitis," which presents, they say, the following symptoms: the cornea does not become vascularized, but its transparency is nevertheless slightly impaired. Its external surface appears uneven, and is covered with small greyish specks. At a later period effusion of a whitish or bluish matter takes place in different regions, and the haziness being much increased vision, is nearly abolished.

Such are the symptoms which are supposed to characterize rheumatic ophthalmia. If, however, we examine them attentively, we find that in reality they are merely those which I described to you when treating of keratitis. We have now several patients in our wards affected with ophthalmiæ answering perfectly to this description; yet if you will take the trouble to question them you will not find one under the influence of a rheumatic affection. Indeed, I have repeatedly pointed out to you the fact, that the majority of both in-door and out-door patients whom we see presenting these symptoms, have never suffered from rheumatism. How can we, then, when cases of this nature are continually under our eyes, ascribe them to a specific affection, especially when we consider that simple inflammation of one or more of the membranes which enter into the formation of the eye satisfactorily accounts for their presence? It is a fact worthy of remark, that the ophthalmologists who adopt the opinions I am now opposing, do not describe a single form of inflammation, and that when they speak of traumatic inflammation they say it resembles rheumatic ophthalmia. Indeed it is evidently not on observation but on preconceived theoretical ideas that they have founded the ideal affection we are now examining. Rheumatism attacks fibrous tissues, and as in the eye we have a fibrous tissue, the sclerotica, they have made it the seat of a rheumatic form of inflammation.

The treatment recommended against "rheumatic ophthalmia," affords additional grounds for rejecting it as a disease. The remedies which we are advised to employ are principally those which are used as special agents in the treatment of rheumatism. Now let me ask those of you who have attentively observed the cases of diseases of the eye that we have lately had in our wards, whether they have seen me resort to such measures, when I have met with the group of symptoms that is said to indicate this special affection? They will be obliged to confess, that although I have only recourse to general remedies as adjuvants, or when indicated by the general state of the patient, the plan of treatment which I have adopted has generally been followed by the most advantageous results. On the other hand, does there exist a specific agent capable of curing rheumatism? Many authors say that there are substances, such as tartarized antimony, colchicum, extract of aconitum, &c. which exercise a special influence over this disease. I have very frequently tried them, but with very slight benefit to the patient. In rheumatic affections the usual treatment of inflammatory affections seems to succeed the best.

The few remarks which I have just made will, I think, suffice to shew you, that those who recognise this class of specific diseases of the eye are not only wrong in a scientific point of view, but that the ideas which they advocate have also a prejudicial effect on the treatment of ophthalmia, as they induce practitioners to resort to general measures against symptoms which would generally disappear under the influence of topical applications. I have frequently seen the inflammation subdued in a few days by the solution of the nitrate of silver, in cases which had been unsuccessfully treated by general remedies. To fully elucidate this question, it would be requisite to treat it at much greater length than I have done. I have, however, I hope, said enough to draw the attention of practitioners to the subject, and if I have succeeded in so doing I feel certain that my opinions will sooner or later predominate.

Scrofulous Ophthalmia.

A modern writer thus commences the chapter in which he treats of scrofulous ophthalmia:—"If there are persons to be found sufficiently sceptical to doubt that an inflammatory affection of the eye may undergo peculiar modifications attributable to the causes which have produced that affection, the arguments which scrofulous ophthalmia furnishes will surely

convince them of their error." To this I would answer, as I have repeatedly done, that no one doubts the influence which certain causes exercise over disease, nor do I mean in any way to deny it. My views may be expressed in a very few words; I do not believe that the symptoms of inflammatory diseases of the eyes are essentially modified in scrofulous subjects, or that the indications with regard to treatment are essentially different.

The arguments which the followers of the German school bring forward to support their opinions, are drawn, firstly, from the peculiar symptoms which they suppose scrofulous ophthalmia to present; and secondly, from the treatment which it requires. M Sichel recognises two forms of scrofulous ophthalmia: *scrofulous keratitis.* To these he also adds *scrofulous blepharitis.*

Scrofulous conjunctivitis is characterized by partial vascularization of that portion of the conjunctiva which is near the commissure of the eyelids. This vascularization is formed by streaks of a pale red colour, and represents a triangle, the base of which is turned towards the cornea, and the summit towards the internal or external canthus. Sometimes at the base of this triangle, papulæ or pustules of variable size are observed. The sclerotica remains perfectly white underneath. There is neither photophobia nor epiphora.

Such are the symptoms which are usually attributed to scrofulous conjunctivitis. If, however, you will analyse them, you will perceive that they are exactly the same as those which I described to you in a former lecture as belonging to papular or partial conjunctivitis,—a disease which is met with as frequently on persons who are not scrofulous as on those who are. If any here still retain doubts on the subject, let them examine several patients now in our wards, and they will at once become convinced of the truth of what I now assert.

In *scrofulous keratitis,* although the cornea never becomes vascularized, it loses its transparency, and becomes cloudy. Effusion of plastic lymph may also take place in the tissue of the membrane, the surface of which then appears uneven, as if covered with sand, and assumes a greyish colour.

On consideration you will find that these symptoms, the most prominent among those which are attributed by authors to "scrofulous keratitis," belong in reality to the various forms of simple inflammation of the cornea, which I described to you a short time ago. You will, indeed, observe them quite as often in persons who do not present the slightest trace of a scrofulous constitution, as in those who are scrofulous—a fact, the correctness of which I have frequently proved at the bedside of the patient.

The same remarks will also apply to *scrofulous blepharitis,* which is nothing more than the affection of the eyelids which I described to you under the name of glandular blepharitis.

But although I consider the symptoms which are generally supposed to characterize these specific affections as merely indicating simple inflammation of one or more of the membranes of the eye, I at the same time believe that the progress and duration of an inflammatory affection of the eyes is always more or less modified when it attacks a person whose constitution is deeply tainted with scrofula. In these instances the general state of the economy seems to impress on the ocular inflammation a kind of chronicity, so that effectually to subdue the disease and to prevent the relapses which are continually occurring, it is absolutely necessary to act on the constitution. But this alone does not certainly authorize our making specific affections of the ophthalmia which occur on scrofulous subjects. Does not, indeed, a general scrofulous taint exercise the same influence over the course and duration of all other diseases? How is it then that scrofulous ophthalmia has been so universally recognized, not only by ophthalmologists but also by the profession in general. This circumstance at first appears extraordinary, but it may easily be accounted for. Let us suppose that a practitioner meets with an ophthalmia, presenting the symptoms which I have enumerated in a scrofulous subject, and that shortly after he meets with several other scrofulous individuals, labouring under the same form of inflammation. Unless he examines the question as we are now examining it, he will probably feel perfectly warranted in establishing a scrofulous form of inflammation. When he has once come to the conclusion that such a disease really exists, his belief will not be staggered by meeting with cases which present the same symptoms, although there is nothing visibly scrofulous in the constitution of the patient. On the contrary, he will say that as his patient is affected with scrofulous ophthalmia, and no symptom of scrofula can be discovered, the scrofula must be in a latent state. A fact which proves at once the absurdity of such reasoning is, that this form of ophthalmia attacks persons of a sanguineous as often as those of a lymphatic constitution. I have, indeed, met with it in persons of every age, and of every temperament. Scrofulous individuals themselves are liable to be attacked by all the various forms of inflammation which I have de-

scribed, the symptoms varying according to the nature of the tissue which is inflamed.

In my opinion, even when no allusion is made to diseases of the eye, the word "scrofulous" is very much abused, many persons being reputed scrofulous, although, in reality, they are perfectly free from such an affection. Indeed, in the present state of science, whenever a person has tumefied indurated glands in the neck, or underneath the lower maxilla, he is called "scrofulous," although his flesh may be firm, his shoulders wide, his complexion highly coloured, and he has only become so from having received a scratch or some other trifling injury. It is really preposterous to call a strong robust person scrofulous because he happens to have had an inflammatory affection of the lymphatic system. Properly speaking there is no such constitution as a scrofulous constitution. When this expression is used we merely suppose that by it is meant a lymphatic constitution, in which the white fluids, predominating over the others, predispose to diseases of the lymphatic system.

In speaking of "rheumatic ophthalmia" I told you that the belief in the specific nature of the disease was prejudicial in a therapeutic point of view; this may also be said with regard to scrofulous ophthalmia. Thus, you will find that those who follow the ideas which I now oppose, consider general measures, and more especially those which are commonly employed in the treatment of scrofula, as principally indicated, not only with really scrofulous subjects, but also whenever the eye presents the characters which are supposed to belong to this form of inflammation. In my wards I have long followed, with great success, a very different plan of treatment. I treat the inflammation locally by the application of astringents, and have seldom recourse to general measures, unless the general state of the patient seems to demand it. When there is any constitutional predisposition, such as scrofula—for I consider scrofula to be nothing more than a constitutional predisposition—I always have recourse to those therapeutic agents which are calculated to modify it.

In fine, scrofulous ophthalmia may be considered a nonenity that ought to be entirely rejected from nosological classifications, which it merely renders more complex without any practical utility.

From the remarks which I have made in this and in the preceding lecture, it is evident that ophthalmology would be much simplified were all these specific forms of ophthalmia definitively abandoned, and the inflammatory diseases of the eyes merely studied in the tissues which are affected. That you may become convinced of the great advantage that would ensue, both to science and to therapeutics, I need only ask you to look into the works of the authors who have written on this branch of pathology; you will really be alarmed at the confusion—the chaos which reigns in them. In these lectures I have merely laid before you the doctrine of specific ophthalmia in its greatest simplicity, and yet you must have remarked that the lucidity which characterized the descriptions which I gave you of the inflammatory affections of the eye, considered apart from specific causes, disappeared as soon as we commenced the examination of the specific forms of inflammation. What, then, would it be were I to attempt to describe their various combinations;—were I, for instance, to speak of *rheumatico-scrofulous*, *catarro-scrofulous*, *catarro-rheumatic* ophthalmiæ, &c. &c.!!

In conclusion, I must again give it as my decided opinion, that all these appellations have no practical utility, and that, as they only tend to render still more intricate a branch of pathology which, from the structure of the affected organ, is inevitably of a very complex nature, I think they ought to be altogether abandoned. If the profession in general were to adopt these views, and to treat inflammatory affections of the eyes as simple inflammations of the tissues which enter into the formation of that organ, taking into consideration, at the same time, the constitution of the patient, ophthalmology would then be reduced to its most simple expression.

Syphilitic Ophthalmia.

An attentive and careful examination of the inflammatory diseases by which the eye is attached, has shewn us that those forms of ophthalmia which authors have denominated *catarrhal*, *arthritic*, *rheumatic*, and *scrofulous*, do not present any thing specific either in their symptoms or in their treatment; but this is no longer true with regard to syphilitic ophthalmia, for it is an undeniable fact that syphilis does impress on inflammatory affections of the eye peculiar characters which require a specific treatment. When, indeed, we consider, that if, in pathology, there is a specific disease, it is certainly syphilis, and that, when the economy is deeply impregnated with the syphilitic virus, all other diseases which may occur appear to be more or less modified by that virus, we cannot but acknowledge that it is perfectly rational to admit the existence of syphilitic ophthalmia.

This really specific class of inflammatory affections must not be confounded

with the malady which I described under the name of "gonorrheal conjunctivitis." There is the same difference between these diseases as between a venereal chancre and a gonorrhœal affection.

Some authors (M. Sichel among others) think that the iris alone is the seat of the syphilitic ophthalmia, but this is an error. The iris is oftener affected, it is true, than any other part of the eye, but the malady is also occasionally seen in other tissues. I have myself met with several cases in which the eyelids or the cornea were apparently attacked by this form of inflammation. A short time ago I had under my care a youth evidently labouring under syphilitic blepharitis. The margin of the eyelids was swollen, and presented a yellow copper-coloured appearance, the conjunctiva and the cornea being at the same time perfectly healthy. Every kind of treatment had been tried during a space of six months, but without success. Suspecting the nature of the affection, I submitted him to a course of mercury, and in a short time he was completely cured.

I have also seen cases of keratitis, in which the cornea was vascularized, and offered a peculiar copper-coloured appearance, and which had resisted every other plan of treatment, give way rapidly as soon as mercury was resorted to.

The symptoms which are given by ophthalmologists as indicating the presence of syphilitic iritis, are the following:—The iris presents a copper-coloured appearance, its tissue becomes turgid, and its anterior surface assumes a velvety aspect. At the same time the pupil, losing its regularity of shape, becomes deformed superficially and internally.

But this description is only partially correct, as the change which takes place in the form of the iris is merely a symptom of the inflammation of that membrane, and is not oftener observed internally than externally, superiorly than inferiorly. Indeed, as I have already told you, the modifications which may occur in the form of the pupil are not of the slightest avail towards distinguishing the different forms of iritis.

Soon small flakes, described by Beer under the name of *condyloma*, and by Müller under that of *crista galli*, make their appearance at the circumference of the pupil, forming, as it were, a kind of fringe. In addition to these symptoms, which may be considered characteristic of syphilitic iritis, when the inflammation is acute, there are others which generally accompany simple iritis, such as haziness of the aqueous humours, vascularization of the conjunctiva and sclerotica, and disorder of the visual functions. The pain which the patients feel is generally greater during the night than during the day.

Whenever these symptoms are present, and the patient is or has been under the influence of syphilis, we may conclude that the inflammation is of a syphilitic nature. Syphilitic iritis may be classed among secondary syphilitic affections, as it is produced by the same cause and follows the same course.

Once we have recognized the syphilitic nature of this form of ophthalmia, it becomes evident that recourse must be had to an antisyphilitic treatment. If, however, the inflammatory symptoms run high before we resort to the specific treatment of syphilis, the inflammation must be subdued by general and local blood-letting, and by the other measures which I enumerated when speaking of acute iritis. If, on the contrary, the inflammation is chronic, we may begin at once the mercurial treatment. I generally order mercurial frictions to be practised on the internal parts of the thighs, and give internally the proto-ioduret of mercury.

ON SIPHILIS.

By Herbert Mayo, F.R.S.
Senior Surgeon to Middlesex Hospital.

[Continued from page 195.]

[*For the London Medical Gazette.*]

Description of chancre — Indurated chancre — Chancre without marked induration — Unindurated sores described by Carmichael — Venerola vulgaris of Evans — Opinion of Mr. Welbank — M. Ricord's account of inoculated chancre — Bearing of his experiments on the contagiousness of secondary siphilis, and the identity of venereal poisons — Practical diagnosis of chancre.

Chancre may be described as a sore more or less circular, beginning by a small vesicle or pustule when the epidermis is entire, otherwise as a small ulcer, having a tendency to very slow increase, and to preserve one character, its surface being without granulations, the edge clearly defined, and the base and edge being either very much indurated, or only firm to the touch, which is more common, the firmness even in some cases being evanescent. The principal varieties of appearance which chancre assumes I shall describe under the

heads of indurated chancre, and chancre without marked induration. The criterion of chancre, which I recognize, is its liability to be followed by scaly eruption of the skin.

I. Indurated Chancre.

Mr. Hunter has described the indurated chancre in these words:—"The sore is somewhat of a circular form, excavated, without granulations, with matter adhering to the surface, and with a thickened edge and base. The hardness and thickening are very circumscribed; not diffusing themselves gradually and imperceptibly into the surrounding parts, but terminating abruptly." Venereal ulcers, exactly answering this description, are met with upon the corona glandis, and on the inner and outer præputium. The hardness approaches that of cartilage, so that the ulcer, at an early period, feels like a little cup of cartilage set in the flesh: sometimes the extent of the surrounding induration is disproportionate to the size of the ulcer, which has the appearance of a small hole in a nodule of condensed texture. The little ulcer on the nodule of cartilage sometimes closes, or skins over after a few days. It remains, indeed, liable to ulcerate anew; but if this does not happen, the permanence of the nodule alone may be considered evidence of local primary venereal action. The nodule left by an indurated chancre is sometimes considerable enough to form a prominent lump. One that was of the bigness of a pea, I was requested, some years ago, by the patient, a medical student, to cut out: he said that he had taken mercury a few weeks before, and that this lump had remained where the sore had been: I cut it out, and the wound closed healthily: in a short time he was attacked with siphilitic psoriasis.

It occasionlly happens that the abrupt boundary of the induration, on which Hunter laid stress, is masked by common inflammatory condensation of the surrounding parts. In one of the most obstinate cases of chancre which I remember, the ulcer, which was an excavation that would hold a pea, was situated at the edge of the glans, and the surrounding texture, both of the body of the penis and the glans, was condensed to the extent of half an inch, beyond which the hardness gradually terminated. The cellular texture of the prepuce renders it easily susceptible of this kind of diffused hardening, which, like the defined sort, sometimes assumes the form of a blind chancre. It is thus described by Mr. Babington:—"It is not uncommon that a primary venereal sore should assume the following characters:—A portion of the prepuce, of about the size of a silver penny, shall became slightly thickened, so as to lose its natural flexibility; and perhaps the surface shall be slightly excoriated. In the course of a few days, if the part is kept very clean, the excoriation, shall in many instances disappear, but the hardness shall progressively increase, assuming a more defined character, and at last forming a large flat mass of the size of half-a-crown, so inflexible and rigid that the prepuce cannot be everted without difficulty. There shall be no tenderness, no inflammation, sometimes no ulceration, at all; at other times only a slight dark-coloured excoriation of the surface."

The extent to which it is possible that the characteristic induration attending chancre may reach, when the cellular texture of the prepuce is invaded by it and lends itself to it, is well exemplified in the case of Evan Pugh, aged 60, reported in a clinical lecture by Mr. Lawrence. In this patient "the integuments of the penis and the prepuce were inflamed and swollen, and the latter could not be drawn back, although its orifice was not much contracted. There was copious puriform discharge. Just within the prepuce, at its lower part, two ulcerated prominences could be seen: these prominences, each of which was as large as the end of the thumb, were at first supposed to be the end of the glans in a state of ulceration." The glans, however, was found, on a more careful examination, to be behind these prominences, which proved to be an enormous induration surrounding a single ulcer. The ulcer healed, and the prominences disappeared under a course of mercury.

Mr. Carmichael observes that "chancre, when situated on the body of the penis, is of a dark livid colour; the ulcer is not excavated, but is on a level with the surrounding parts. It is attended with less induration than the excavated chancre; and is, in general, from the size of a sixpence to that of

half-a-crown; and even, sometimes, it extends round the body of the penis. Its edges are a little raised, and the surrounding induration very perceptible to the touch, although not in so great a degree as in the chancre described by Hunter. The livid surface is alternated every third or fourth day with that of a light brown or tawny colour."

Indurated chancre is seldom seen to attain any great magnitude: its extreme limits are commonly between a third and half an inch in diameter. This, however, it may be presumed, depends not more upon its sluggishness than upon its early subjection to treatment. Mr. Carmichael describes a chancre, the size of half-a-crown, situated on the external prepuce. I have seen an indurated chancre, of the same size, situated on the inner surface of the external labium. The patient, who was a respectable married woman, had known there was a sore on the part for six weeks. Not at first suspecting its source, I ordered anodyne poultices and a mercurial wash alone. Soon after this the patient fell ill of bronchitis, on recovering from which, after a protracted illness, I learnt that the sore was better, but of considerable size still. In four months altogether from the first appearance of the sore, she was attacked with siphilitic psoriasis of the throat, upon which she took mercury and recovered. About the same time, to clear away all ambiguity from the case, her husband became my patient, with siphilitic disease in the ulcerative form.

II. Chancre without marked induration.

Chancres, attended with little or no induration, exhibit the following varieties:—They may be flat, or nearly so, and but little sunk below the level of the surrounding skin; or they may be sensibly cupped or excavated. After a time they are liable to become raised or elevated. These differences are principally attributable to difference of stage. An ulcer, at its commencement, if small, is necessarily excavated; as it enlarges, supposing its character to remain unaltered, it may become level; after a time it may throw up a fungous growth of organized lymph. Situation has something to do in maintaining the cupped figure of an ulcer, and local peculiarity of structure may tend to the same result.

Chancres belonging to this class, occurring upon the inner preputium, are commonly flat, or nearly so. The surface, flat or slightly dished, and sunk but little below the surrounding skin, is of a reddish gray colour, and is uneven, from numerous little excavations in it. The border is raised but slightly; sometimes it has a narrow flat rim; sometimes it presents a sharp edge that is turned upwards, but not everted: in the latter case, the edge has often a remarkable semi-transparency. Sometimes there is a thin line of bright red immediately surrounding the edge of the ulcer; but this, like the last appearance, indeed, is only seen in parts where the epidermis is thin. The surface of the ulcer and its border have sometimes only firmness enough that their existence and form may be just distinguished by the touch: more commonly, though not approaching the cartilaginous induration of the first class, they have yet a positive firmness.

Such a chancre occurring on the outside of the prepuce, or on the body of the penis, is often, for a time, covered with a scab or crust of dried pus: if seen on the pustule breaking, its surface would have been slightly sunk, but flat, covered with a layer of ash-coloured secretion.

A chancre of the present class, when occurring in the furrow surrounding the corona glandis, or in the fossa of the frænum, remains longer excavated; when, containing a soft pellet of whitish secretion, it appears to have suggested to Mr. Bacot the term aphthous ulcer. As this ulcer enlarges, it becomes shallower. When beginning in the fossa of the frænum it commonly tunnels through below the frænum, which it afterwards divides; the shape of the ulcer then becomes irregular. When it occurs, again, at the angle of reflection of the inner prepuce, it appears to have a depth that does not really belong to it: it is formed of a circle, with a hinge at one of the diameters. If there is œdematous swelling of the prepuce, such a sore appears very deep, and being liable to be covered with dark coloured secretion, it may be mistaken for the commencement of burrowing phagedænic ulcer.

This kind of sore, when it occurs upon the glans, is cupped, the surface of the cup yellow, a zone of red margining its edge.

When an ulcer of the present class has existed some time, it occasionally,

like other ulcers that are unprogressive and yet not healing, becomes covered with fungous granulations, that are raised above the level of the surrounding skin. The raised surface is flat and smooth, and of a greyish-red colour, that is to say, not highly vascular: it is not indurated, but it has firmness enough to prevent its being crushed by slight pressure. Such a raised ulcer is liable to skin over in this state, when it remains a dry flat nodule, of the same degree of firmness as the ulcer which preceded it, and to which state it is liable to return.

Chancre upon mucous surfaces, in the male urethra, or in the vagina, internal to and free of the cutaneous texture of the labium, are commonly attended with very little hardening or inflammatory firmness. In the male urethra they may be occasionally seen presenting this character, when their circle all but reaches the orifice. When occurring lower down their existence can be determined only by the local tenderness. Sometimes, however, there is considerable induration round them. In the vagina, within the outer labium, and from thence to the cervix uteri, chancres are found that are small, and without induration, that are remarkably indolent in their progress, and slow in affecting the constitution of the patient herself.

I have thought it better to give the preceding account of certain varieties of sores unattended with marked induration, which I believe to be truly siphilitic, before adverting to the descriptions (as I conclude) of varieties of the same sores as given by Mr. Carmichael, and by Mr. Evans, and to the different views entertained by those writers respecting their varieties. I have the less hesitation in supposing that Mr. Carmichael's descriptions, of which I have immediately to speak, include the sores specified, that Mr. Evans appears to me to express the same opinion.

Mr. Carmichael describes, under the title *superficial ulcer without induration, but with elevated edges*, a sore of which to those, its principal characteristics, may be added, "that it sometimes displays a whitish, and at others a brown surface, without any appearance of granulations. It is not excavated, but is either on a level with the surrounding skin, or considerably raised above it; yet it is necessary to observe, that it sometimes seems indurated to the eye, and the elevated edges of this ulcer give it the appearance of excavation. At its commencement it appears in the form of a small pustule, attended with itchings of the part."

Under the title of *ulcer, destitute not only of induration, but of elevated edges*, Mr. Carmichael describes a sore "raised above the surrounding skin, that exhibits a smooth surface, the colour of a healthy sore, but without granulations, and has somewhat a fungous appearance. Sometimes it is in a line with the surrounding surface, and *seldom is excavated*. These ulcers, which are far more general than any other to which the parts of generation are liable, vary from the size of a pea to that of half-a-crown, and are more frequently found on the glans and internal surface of the prepuce than elsewhere."

Now the first of these sores Mr. Carmichael has never seen followed by constitutional symptoms, and the latter he views as leading, in common with virulent gonorrhœa, to papular eruptions and other features of constitutional affection, perfectly distinguishable from the consequences of indurated chancre.

It is difficult satisfactorily to place these two kinds, described by Mr. Carmichael; but of the first, it strikes me that it is made to comprehend dissimilar cases. Of the five cases which are given, the third and fourth are crops of common ulcers from irritation; the third probably a chancre; and the first and second uncertain, but obviously not authorising mercurial treatment. Nor does it follow that because these patients did not apply afterwards for advice, that none of them had not secondary symptoms. The instances given under the second division are fungous ulcers, that might have followed simple ulcers from irritation, while others of them may have followed unindurated chancres, a portion of them only being the same which Mr. Evans means by venerola vulgaris.

Under that term, however, Mr. Evans condenses both the preceding kinds of ulcers, believing them to be one in two successive stages. He describes the venerola vulgaris, or ulcus elevatum, as "more frequently met with than all other ulcers of the parts of generation put together," and as presenting the following definite stages:—being pustules for the first four to six

days, scabbed till the tenth day, the scab covering a concave ulcer of the oval or circular figure, with a surface of a glossy brown, an unhealthy red, or more frequently a dirty yellow colour; from hence to the eighteenth day, the elevation of a fungous growth, above the surface of the surrounding skin, taking place and increasing: then follows a stationary period, after which the ulcer declines and heals, leaving eventually, where the thickening was, a permanent depression." In another passage Mr. Evans observes, "when situated behind the glans, at the junction of the integuments with the body of the penis, this ulcer has sometimes in its second stage an *excavated* appearance, like the calyx of an acorn; *in these cases there is often a great degree of hardness surrounding it*, which, however, seldom continues longer than through this stage, generally disappearing on the commencement of the third." So Mr. Evans's venerola vulgaris approaches very nearly, and probably was sketched from what I have described as unindurated chancre: my reasons for preferring my own account of the complaint, in which it is grouped with indurated chancre, to adopting Mr. Evans's systematic separation of venerola vulgaris, from that and other sores, are principally these: I believe, as I have already expressed, and as the last quotation from Mr. Evans seems to admit, that the induration in these sores is essentially variable; that all shades of it are met with; while, in each, the sore is truly siphilitic, which Mr. Evans denies. His venerola vulgaris he holds to be essentially different from chancre, and to be either not benefited, or made worse by mercury. Yet the following passage, which I shall further quote from his book, allows one to gather that he believed in one most important affinity between venerola and chancre. "The differences between venerola vulgaris and chancre," he observes, "consist, first, *in it not, as a general rule, being followed by consecutive diseases where mercury is abstained from;* secondly, in not requiring the excretion out of the venereal irritation for its cure; and thirdly, in that irritation being either useless or injurious."

Mr. Welbank, in his "Commentaries on Siphilis," adopts Mr. Evans's belief in the existence of venerola, as a frequent disease, pursuing a determinate course, distinct from chancre. But he evidently finds great difficulty in drawing the line between the two, and in my opinion fails to do so. Nothing, however, can be more faithful than Mr. Welbank's own delineations of many features in siphilitic disease, of which I select some that may serve to fill up the picture already traced. "When chancre," observes Mr. Welbank, "is situated in the fossæ of the corona glandis, frænum, or prepuce, it is sometimes attended with considerable excoriation, which at first masks the more virulent complaint." Of chancres on the inner prepuce, situated near the glans and frænum, he remarks, that on retracting the prepuce so as to throw forward the ulcerated surface, the latter "will sometimes appear elevated in regular convexity, and exhibit a tawny or deep crimson colour." Of chancres of the integument, "they are usually of a deep red or tawny colour, more frequently oval than circular, and something raised above the common level." Speaking of primary siphilitic induration of the skin, he says, "convexity of the surface formed by large loose granulations, may be sometimes seen in the large tuberculated chancre, on the exhibition of mercury. The half healed, half excoriated, brown-red tubercle, then becomes of a raspberry tint, and exhibits large flabby granulations." Mr. Welbank, finally, adverts to the indurated and excoriated state of the extremity of the glans, when the orifice of the urethra is the seat of chancre; and he particularizes the flocculent, shreddy, or villous surface, which is often seen in ulceration of the glans.

It is an important desideratum to ascertain whether, according to Mr. Evans's conjecture, chancres without marked induration are less frequently followed by lues than the indurated ones. It is probable that this would at first, at all events, appear to be the case, as the accidental adoption by a common sore of the character of unindurated chancre must be easier and more frequent than going into cartilage-like induration.

Primary siphilitic disease is commonly already an ulcer before it attracts notice; so that any general account of its earliest appearance must be conjectural. But there is no reason to doubt that on an abraded surface, or an excoriation, the first appearance would be an ulcer; and when the skin is entire, opportunities

occasionally present themselves of seeing the disease as a pustule, and even as a vesicle containing an opaque lymph. The latter, it is probable, is the ordinary local commencement of the disease. I have seen the disease commence by a vesicle on the inner preputium, and existing, in its pustular form, on the skin of the penis. These observations are often to be made when, from neglect of cleanliness, fresh infection takes place from the original chancre.

A characteristic feature of siphilitic sores is, that they occur commonly but one, or at most two, at once. This, however, must no doubt be accidental; yet it is so constant a feature, that it is a useful aid in the diagnosis of ambiguous cases. A crop of sores appearing on the prepuce are sure not to be chancres. A crop of circular sores at the corona glandis following a suspicious connection, still most unlikely to be chancres, nevertheless occasionally prove of that nature.

The period which intervenes between exposure to infection and the appearance of a chancre is indefinite. It commonly varies from twenty-four hours to a week; but the interval may be much longer. "I have known cases," says Mr. Hunter, "where the chancres appeared twenty-four hours after the application of the matter, and I have known them seven weeks. A remarkable case of this kind was a gentleman who had not had sexual intercourse for seven weeks, when a chancre appeared, which was proved to be venereal by his having had the lues venerea from it, and being under a necessity of taking mercury." An instance came under my own observation in which the interval was something greater. A gentleman had a chancre upon the inner preputium, which he had known the existence of for ten days. He assured me that he had had no sexual intercourse for more than eight weeks before he observed this sore. Within a fortnight of the time I speak of, he was attacked with siphilitic psoriasis of the most virulent description.

It is through the experiments of Ricord that we are finally able to reconcile the anomalies that are observed as to the period of the appearance of siphilis, and to determine with certainty the mode of its development. These experiments, by the general uniformity of their results, establish that the indefinite time which intervenes in the ordinary infection of siphilis, between contagion and the manifestation of the disease, is attributable to some agency external to the vascular cutis, the seat of which and the cause must be the epidermis, and its greater or less permeability in different parts and in different persons; and they prove that the order of the phenomena in the development of chancre, is, first, the production of a vesicle; that next becomes pustular; and then, breaking, discloses an ulcer. The experiments consisted in the inoculation of persons affected with chancre with the matter from their own sores on some other surface. M. Ricord usually made these inoculations upon the thigh. The following is the summary of his observations upon the artificial chancre so produced:—

"During the first twenty-four hours the point of inoculation reddens; from the second to the third day it becomes slightly swollen, and presents the appearance of a pimple with a red areola; from the third to the fourth day the epidermis, raised by a liquid more or less turbid, takes the form of a vesicle; from the fourth to the fifth day the turbid secretion has increased in quantity, and become purulent. The vesicle becomes a pustule, and having a depression in the centre, bears a resemblance to the pustule in small-pox. At this period the areola, of which the breadth and intensity of colour have increased, begins to contract, especially if the disease is not progressing; but from the fifth day, the subjacent textures, which often as yet have undergone no change, or which were only slightly œdematous, are infiltrated and hardened by the effusion of plastic lymph, which yields on pressure the resistance and elastic feel of cartilage. Finally, after the sixth day, the pus thickens, and a crust or scab begins to form: when this separates an ulcer is exposed, which, based on the firm texture that has been described, is hollowed to the thickness of the skin, and presents a surface of false membrane, white, or grey, or lardaceous. The borders of the ulcers are circular, cleanly cut, as if made by a punch, are nevertheless detached (decollés) for a greater or less extent, and when examined with the microscope, present shallow indentations, and a surface resembling that of the base. The skin immediately surrounding the ulcer is thickened, firm, slightly elevated at

its border, and is coloured of a reddish brown mixed with a violet tint."

M. Ricord mentions that he has thus inoculated from primary siphilitic sores in more than four hundred instances, and that the result which has been described had never failed to follow. The few observations of the same kind which I have had a proper opportunity of making, lead me to attach great faith to M. Ricord's statements; but I think that he has given a degree of precision and accuracy of outline to his description of the artificial sore beyond what the facts may have warranted. I cannot say that I have observed the marked induration which he describes supervening at the fifth day, nor has the hardness ever amounted to more than I should express by the term firmness; such a firmness as from analogy should be produced by common inflammatory effusion into the texture of the skin surrounding the ulcer, and of the tissue beneath the surface of the ulcer. I certainly have not seen any thing approaching to the cartilaginous hardness of indurated chancre. I have found that in twenty-four hours from inoculation there has been a redness at the surface of the punctured part; that the next day there is lymph effused below the epidermis, or a vesicle; that by the third day there is a pustule, surrounded by a zone of red and slightly thickened skin; that the pustule breaking, a level circular ulcer, a little below the surface of the skin, has shewn itself, with a surface having alternate elevations and depressions, of a reddish grey colour, a little mottled. The circular edge of the ulcer I recognize to be indented with minute semicircular notches, such as M. Ricord describes.

It may be observed, that experiments to produce venereal sores by inoculation had been made by several before M. Ricord, from Hunter downwards; but all that had previously been made were desultory or inconclusive; and to M. Ricord is due the credit of having first systematically instituted a series from which positive inferences can be deduced. M. Ricord appears, indeed, to believe that he has thus established a certain criterion between siphilitic sores and sores of other origin. As affording a practical criterion, however, it will be seen that his method does not carry with it positive certainty: the result he obtains is only an approximation, and requires to be corrected by the observation of the character of the primary sore, as I shall presently shew; not to mention that to be practical a method must be one which can uniformly be adopted. But there are obvious objections to the production of the artificial sore, of which not the least are the length of time necessary for its development, and its intractable nature, when it has been allowed completely to manifest its character. But, in a theoretical point of view, as settling some controverted points as to the common or different origin and nature of different venereal affections, M. Ricord's experiments appear to be not less interesting than conclusive.

In the same tables in which M. Ricord mentions having obtained the artificial sores from upwards of four hundred chancres or primary pustules, he mentions that inoculation in upwards of three hundred cases from secondary sores or pustules did not produce the ulcer in a single instance; thus completely confirming Mr. Hunter's experiments and conclusion upon the latter point.

Another opinion, however, entertained by Mr. Hunter, upon a point of still greater interest, the experiments of M. Ricord go completely to disprove. Mr. Hunter held that the poison of siphilis and gonorrhœa are one and the same, the difference of effect resulting from the different character of the surface to which the virulent matter is applied. M. Ricord's numerous experiments on this question, amounting to upwards of three hundred, followed only by negative results, may be considered as having set it at rest for ever*. Nevertheless, it will be remembered that Mr. Hunter obtained an affirmative fact upon the point at issue, and that by an experiment upon his own person, in which he inoculated himself with gonorrhœal matmatter on the glans and prepuce, he produced sores that were not indeed indurated, but which were followed by attacks of constitutional siphilis. This experiment, considering who was the subject of it, author, observer, and narrator, has always been a stumbling-block in the way of those who wished to entertain the unqualified belief that siphilis and gonorrhœa are not the products of a

* I think that the facts mentioned at pages 110-11 of M. Ricord's work only shew his candour, and do not the least impugn the validity of his general conclusion on the present point. However, others may think differently.

common virus. Of the various suppositions which would get over this difficulty, the circumstances of the following case point perhaps to the true one. I should observe, that I had several times inoculated persons affected with gonorrhœa from their own discharge, and, agreeably with M. Ricord's numerous observations, had found no pustule follow. But there was a patient who laboured at once under chancre of the prepuce and gonorrhœa, and whom I inoculated at the same time with the matter of both, taking care that the gonorrhœal matter used should be obtained fresh from the urethra, unmixed with any external secretions, and carefully applying sticking-plaster over both the punctures. To my surprise, when I expected that the one puncture would lead to nothing, and the other produce a chancre, equal and similar sores were simultaneously produced by both. The explanation of this occurrence I found to be the following:— There was a small chancre in the urethra, immediately within the orifice, which could be distinctly seen on pressing the lips of the urethra apart. It was no doubt from this source that the matter flowing from the urethra derived the quality which enabled it to communicate chancre; and I have little doubt that the result of Hunter's experiment, so much at variance with the number which have now been made with pure gonorrhœal matter with no effect, is to be attributed to the like cause—to the matter employed having been taken from an urethra which was at the same time the seat of chancre.

I entertain, again, little doubt that the various cases reported by so many, of the same woman infecting alternately with chancre or gonorrhœa, admits of the same explanation. The person who has communicated the two diseases has had them both. Some have been infected with the one, some with the other, some with neither. M. Ricord has established the fact that chancres often exist deep in the vagina or on the os uteri. I believe, from observation, that such chancres, not external, in women, may remain for months in an indolent and unprogressive state. I attended a gentleman for three successive chancres, which he had caught, at intervals of a very few months, from the same woman, who would have it that she was in perfect health. At last she consented to allow me to examine her, when I found two small ulcers within the external labia, which got well under mercury. The story of the Portuguese opera-dancer, mentioned by Dr. Fergusson, and already quoted, is doubtless to be explained in the same way.

In some few of the instances in which I have used M. Ricord's method of identifying siphilitic disease, I have come upon further results, which appear to me strongly to favour the supposition that chancre and phagedænic venereal sores are derived from the same poison. I have in three cases of benign phagedæna inoculated the patient from the sore. There has, indeed, been some difference of opinion among those to whom I showed the suspected ulcers, in two of the cases referred to, as to their nature. One surgeon, whose judgment I respect very highly, was disposed to consider them serpiginous ulcers only, and something essentially different from phagedæna. And the ulceration was, indeed, superficial. Nevertheless, in all, but in one especially, to which I refer because the ulcer of inoculation derived from it was allowed to run its course for a fortnight, for the purpose of fully identifying its character, there existed the spreading yellow edge, the irregular figure, the one margin healing while the disease progressed at the other. The patient had had besides, upon the back of the thigh, an extensive phagedænic ulcer, of which the character was indisputable. This had but recently lost its phagedænic appearance, and was in progress of healing, the ulcer on the glans penis as yet remaining in the state described. Mercury, likewise, it may be mentioned, had been used in the earlier part of the case, and had done harm. Now inoculation in these three instances from sores which in my opinion were certainly phagedænic, produced a pustule similar in appearance to that caused by inoculation from chancre. In two of these cases I stopped the progress of the sore on the fourth day by touching it with nitrate of silver. In the third the ulcer was allowed to take its course, and exactly resembled the artificial chancre.

These facts on the one hand appear to me to confirm the opinion that chancre and phagedænic venereal sore proceed

from the same virus; and on the other, to detract from the value of M. Ricord's method as a practical test of chancre.

I shall now attempt, by recapitulating the points of distinction which have been already described, and by adding what may be necessary, to define the practical line between other sores and true chancres; or to enumerate the circumstances by which an approximative diagnosis may be drawn between sores, on the one hand, that either do not threaten to carry lues into the system, or, if they do, can by no known means be prevented doing so; and on the other, those sores which, while they most threaten to produce constitutional lues, are yet, both in their progress and as regards their effects on the system, to a positive degree under the control of medicine.

Then it is evident that herpes and common excoriations are distinguishable by their appearance from chancre; that ulcerative and sloughing phagedæna are not less so, together with spreading superficial sores, whether called benign ulcerative phagedæna, or serpiginous ulcers.

The characters of the different varieties of chancre are likewise so clearly definable, that they cannot easily be overlooked. But if chancres ought not to be mistaken for common sores, common sores may unavoidably, looking to their present appearance alone, sometimes be mistaken for chancres. It has been mentioned that the little ulcer of herpes may, through neglect, spread, and resemble a chancre. Any accidental sore resulting from a heated state of parts, want of attention to cleanliness, the irritation of gonorrhœal matter, or the contact of other acrid substances, may again be circular, have an inflamed edge, and resemble chancre. But the causes enumerated may produce either one, or a crop of ulcers: if the latter, the presumption is strong that they are not chancres. If there be but one or two, the doubt as to their nature can only be cleared up (as in the sore following herpes) by waiting, and applying for a few days cooling remedies to the part. When such ulcers are just within the aperture of the prepuce, the latter being long, they are liable to be rendered irritable, and to be kept from healing, by the passage of the urine, and at the same time to become extremely indurated, the texture round them being almost cartilaginous. Practically, again, one would be slow to set down as chancre an ulcer that one had only seen with a fungous, or soft, raised, and secreting surface. Finally, secondary siphilitic psoriasis will produce on the penis or scrotum appearances much like unindurated chancre. But in all these cases the attendant circumstances and history will generally suggest doubts to the surgeon, which he has only to entertain to prevent his being misled. A few other sources of ambiguity remain, which, belonging to the subject of phimosis, will be spoken of with it.

[To be continued.]

REPORT ON VACCINATION.

To the Editor of the Medical Gazette.

Sir,

Having acted as one of the Secretaries to the Vaccination Section of the Provincial Medical and Surgical Association, perhaps you will allow me to occupy a very small space in your valuable publication.

In common I should think with every member of the Section who was present at the meeting at Liverpool, I have read the two letters of Dr. Gregory with the greatest astonishment. At the meeting of the Section on the 24th July, Dr. Baron submitted the report to them, and carefully read every line of it. The Section unanimously adopted the report; Dr Gregory himself being either the mover or seconder (I forget which) of such adoption, and expressing his approbation of it in the most unqualified terms. The following day the report was presented to the Association in full meeting, and again read by Dr. Baron; Dr. Gregory was present, but no word of disapproval fell from him. Nay, more, at the dinner, on the occasion of Dr. Gregory's health being drank, he in returning thanks went out of his way again to laud the report, and to express his high satisfaction with it; and paid a very high compliment to provincial practitioners, to one of whom, he observed, we were indebted for the discovery of vaccination, and that to the united labours of others we were now indebted for placing that discovery upon a solid and lasting basis.

What has occasioned the *new light* that has so suddenly burst upon Dr. Gregory, he can, of course, best explain; but I think it is only just to Dr. Baron, and to the Section, that the profession should be made acquainted with the facts I have stated.

The letters of Dr. Gregory, and of your correspondent, "Scrutator," call for some remarks, especially as regards the complaint of the latter, that so little use has been made in the Report of the information received from the Small-Pox Hospital—a circumstance that I think I can satisfactorily account for, if you will permit me to intrude upon your pages a short explanation in your next week's publication.—I am, sir,

Your obedient servant,

WILLIAM CONOLLY.

Castleton House, near Cheltenham,
Nov. 5, 1839.

To the Editor of the Medical Gazette.

SIR,

I TOOK a good deal of trouble at the beginning of this year (when I could ill afford the time) about the Report of the Vaccination Section of the Provincial Medical and Surgical Association; and I therefore did not feel particularly gratified at the strictures of Dr. Gregory and Scrutator on this subject, which appeared in your last number. I made a point of calling on Dr. Baron, naturally expecting that he who had drawn up the report would feel anxious to rebut the attacks that had been made. He observed to me, however, that he had candidly acknowledged the only error that had been pointed out; that he was conscious that the report had been prepared with an honest intention and with great care; that it contained what he believed to be truth, and that he felt perfectly willing to commit the issue to time and the unprejudiced opinions of his brethren, when present excitement and irritation shall have passed away; and that for these reasons, and observing the spirit in which the controversy had been commenced, he felt no inclination to prolong it. Dr. Baron's feeling on this point may be correct; but I, as a member of the Section, and one who has bestowed no little labour in wading through a great mass of returns and correspondence, carefully examining their contents, and reducing them to a tabular analysis for the sake of this very report, have a right to think differently, and act as best pleases myself. I am not therefore content that this valuable report should be quietly consigned to even temporary neglect by the flippant remarks of Scrutator, or the clever contrivance of Dr. Gregory. I am not content that a report which, as a whole, is marked by extreme care and fidelity, should have its veracity impeached and its value depreciated by the innuendoes and inferences of Dr. Gregory, who has the dexterity, by garbling the words and perverting the meaning, to distort a remark applicable to medical inquiries generally, so as to make that which was urged in extenuation of a particular inaccuracy, appear like a confession of haste and negligence in conducting the whole inquiry. I will copy the two sentences, because, when standing in apposition, they will best indicate the character of this manœuvre, and preclude the necessity of my affixing any epithet to it.

"The examination of a great multiplicity of documents, and the hurried and broken manner in which medical men are for the most part constrained to carry on their inquiries, will in some degree explain, if it does not altogether excuse, the mistake which has been committed."—*Dr. Baron*, Med. Gaz., No. 621, p. 176.

"It is certainly much to be regretted that an error, or rather a series of errors, such as those I pointed out in my last communication, should have occurred in Dr. Baron's report, because it leads naturally to the inference that the same 'hurried and broken manner of carrying on the inquiry,' to which Dr. Baron attributes one imperfection, may have led to others."—*Dr. Gregory*, Med. Gaz. No. 622, p. 209.

But, not to dwell further on these points, I am prepared to contend that this Report is a very excellent one, and am ready to meet any arguments which may be fairly brought forward in order to prove that it is not so. I maintain that the facts therein detailed are recorded with scrupulous care and exactness, and that the pathological inferences from them are drawn according to the principles of fair and legitimate deduction. I can show that the doctrines which the Report advocates are supported by a body of testimony from dis-

interested and incidental sources which the opponents eannot gainsay, and that they therefore do well to persist in fastening with appropriate pertinaeity on a solitary blunder. I eontend that the points objeeted to by Dr. Gregory are capable of as much proof as the subjeets of medieal seienee generally admit of, and that Mr. Ceely's experiments will tend to *remove prejudice*, *secure correct and satisfactory practice*, and lead to the eonviction that vaccination and variolous inoculation are *on a par* in respect to their power of securing the eonstitution. There will be no difficulty in making it manifest that the whole reasonings in Dr. Gregory's letter are remarkably inappropriate and deceptive; and very solid and sufficient reasons ean be assigned for the omissions in the Report complained of by Scrutator. In establishing these points, I believe that no provocations will betray me into using any harsh or intemperate expressions, and I will endeavour to make my observations as brief and pertinent as possible. I fear, however, that fully to enter upon, and do justice to the subject, would encroaeh too far on the limits you eould conveniently allow me in your one number. The estimate which a writer and an editor form of the importanee of any communieation is often very different; and an editor may, unintentionally but very effeetually, cripple an argument, when he merely wishes to reduce it to a convenient length. I think, therefore, in the present communication, I had better confine myself to specifying the points which I am ready to advoeate and defend, and indieating the spirit in which a discussion of this kind ought to be conducted.

It is quite immaterial to me whether or no Dr. Gregory may ehoose to notiee this letter. If he should please to enter into the eontroversy with me, I should like to intimate to him, at the outset, that in professing to quote an opponent's words by putting them between inverted commas, it is always right to quote them exactly, although it may not be quite so convenient. With respet to Scrutator, I have to remark, that, although I like for a man to attach his real name to his writings, I am not very fastidious in the matter, aud shall not objeet to his retaining his fictitious appellation if he thinks it neeessary, or finds it particularly agreeable. I wish, however, to suggest to him that it is rather indecent, or at any rate not in good taste, for a person disguised under an assumed name to make use of violent and irritating expressions, and that the best that can be said of anonymous abuse is, that it is a very *discreet* exhibition of valour.

I am, sir,
Your obedient servant,
HENRY COLES.

Cheltenham, Nov. 5th, 1839.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

A Challenge to Phrenologists; or Phrenology tested by Reason and Facts. By A. M. of the Middle Temple. London, 1839. Small 8vo. pp. 206.

THE ehief praetical objection to phrenology is the one urged by Dr. Prichard, that the exceptions to its rules are at least as numerous as the examples. Hence if phrenology is called a scienee, it must be ealled so with the admission that its foundations have yet to be laid; though we should rather be inclined to consider it as a tentative art, not unworthy the attention of thoughtful and candid men, with leisure to investigate truth, and willingness to aeknowledge their errors. Our author, however, who writes very jocosely and entertainingly, refuses to concede the phrenologists any thing. He not only laughs at their mistakes most unmercifully, but denies them all truth and merit in a department where they deserve some commendation; we mean the depicting of the shades of human charaeter, and the diserimination of cognate qualities. Thus, Gall says he discovered the organ of eautiousness in the following manner.

"At Vienna he knew a prelate of *excellent sense and considerable intellect.* Some persons disliked him, beeause through fear of eompromising himself, he infused into his diseourses *interminable reflections*, delivered with tiresome slowness. In conversation *he was cautious* in eoming to conelusions. He was continually pausing in the middle of his sentences, and repeating the beginning of them over and over again before proeeeding further. *A thousand times he exhausted Dr. Gall's patience.* Never in his life did he happen by any accident to give way to the natural flow

of his ideas, but would constantly recur to what he had already said, and consult with himself, whether he could not amend it in some point." "*He acted just as he talked.*"

This is certainly a lively portrait of a hesitating and over-cautious man, though A. M. of the middle Temple can see nothing in it "but a prudent man *habitually thinking* before speech or action, the precise contrast of Dr. Gall's own character."

No. 28, it seems, is the organ of number, which gives the conception of number and its relations. Now, we have nothing to say in favour of the existence of the organ of number; but we are convinced that there is an arithmetical faculty, which is far more developed in some men than can be accounted for by education or practice; a power, in fact, which is seen at the first dawn of reason, and makes a calculating boy of the son of the humblest peasant. A gentleman mentioned in Mayo's Physiology stated that his mental multiplication table reached to 1000; "a remark," continues Mr. Mayo, "which seems to me to throw light upon the nature of this extraordinary talent, or to show it to be the same in kind, though incomparably superior in rapidity, as that which common persons may acquire by practice. It is but in its extent, facility, and rapidity of combination, that genius differs from ordinary ability." With this we agree entirely; not so with what follows by the Templar:—

"Finding, then, as we invariably do, that men's calculating powers depend altogether upon the extent to which they are compelled to employ themselves in arithmetic," &c. &c.—(P. 162.)

Instead of "invariably do," read "invariably don't;" the progress being by no means proportioned to the labour bestowed; how many scores of years would it take to bring up an ordinary lad's arithmetic to the pitch of Mangiamele, the Sicilian boy? It is encouraging to know that with rare exceptions we can all of us learn to run; but it is sheer madness to assert that we can all succeed in running like the swift-footed Achilles.

On the whole, A. M. has the air of being somewhat young and hasty. As a notable example, he imagines that all truly scientific men are materialists (p. 12), which is very far from being the case. Physiologists, as well as the mass of mankind, have been cheered by the belief, that the reasoning faculties are distinct from the tenement which they inhabit, and that in some favourable instances,

"The soul's dark mansion, battered and decayed,
Lets in new light through chinks that time has made!"

The Anatomist's Manual; or, a Treatise on the Manner of Preparing all the Parts of Anatomy, followed by a Complete Description of these Parts. By J. P. Maygrier, M.D.P., Professor of Anatomy and Physiology, &c. Translated from the last French Edition. London, 1839. Small 8vo. pp. 564.

This book is intended to combine the advantages of a compendium of anatomy, and a dissector's manual, with instructions for making anatomical preparations. Dr. Maygrier appears to have that laconic clearness for which good French writers are so celebrated; but the translation is not well done. If the English student follows this book, he will too often learn a language different from that of his fellow anatomists. Thus we find "rib of the omoplate" for inferior costa of the scapula; and "coracöid apophysis" for coracöid process; the word *process*, indeed, as far as we have seen, never occurs in the translation. *Echancrures* is used for notches at p. 46, and *pröeminente* for prominent at p. 47; *parois* for parietes at p. 353; the *peristaphylin muscles* for the levator palati and circumflexus or tensor palati, p. 215; and "*S* of the colon" for sigmoid flexure of the colon, p. 329. At p. 368 we find the phrases "medullary bandelette," "medullary cordons," and "pituitary tige." Translation is by no means the easy thing that it is vulgarly supposed to be.—*Experto crede.*

MEDICAL GAZETTE.

Friday, November 8, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
Cicero.

MEDICAL RELIEF UNDER THE NEW POOR LAW.

We concluded our last article but one with the remarkable case of a young man

who being a petitioner for relief, was sent to a cell in a jail already occupied by two persons who had the itch; and who contrived to make his escape from this charitable asylum, but not before he had caught the disease. This is the most stringent "test of destitution" that we have yet heard of, and is, we should hope, unmatched, even in the annals of the Act. But granting that the under-strappers who are entrusted with the execution of the statute, have never before pushed their frenzied obedience so far, it is obvious to every one who notes the events of the day, that the ardent desire to make workhouses distasteful, nay, intolerable to their occupants, has carried the friends of the new system beyond all defensible bounds. It is equally plain, that it must be extremely easy to effect this object, even without going so far as to inoculate applicants for relief with the itch. Any disciplinarian of ordinary cleverness might reduce the population of his workhouse to the required amount; he might easily manage to drive every one out of his fastness who had legs to carry him, and out of five hundred inmates retain only half a score of paralytic sufferers. No one has hitherto gone quite this length, but bold attempts have been made towards it. Naturalists inform us, that the rhinoceros, though musket-proof in other parts, may be wounded in the belly; and thousands who would be insensible to other species of worrying, are driven out by the prolonged process of fasting.

Yet after all these refined inventions for making the refuge of indigence unbearable, we still hear occasionally of some one who affects to be surprised or displeased that A did not apply for relief, and Z did not go into the workhouse. The rich man, like the Sybarite in the story, cannot sleep if one of the rose-leaves that form his couch is doubled under him; but if he hears that a poor man cannot repose on a bed of thorns, his astonishment is unspeakable.

About two months ago, an inquest was held at Kensington Gravel Pits, on the body of John Dale, an infant thirteen weeks old. The verdict of the jury was "natural death;" but as it appeared that the mother of the deceased was miserably poor, having been deserted by the man with whom she lived, the question arose, whether she would not have done better to go in the workhouse, as she had been advised by some magistrates. "There was no proof," said the Coroner, "that the mother had been guilty of neglect, although she had certainly been guilty of an error in judgment in refusing to go into the workhouse when it was wished*."

What may be the precise amount of suffering in the Kensington Workhouse we do not know; but if it is an error of judgment to refuse to go into such a place, we would appeal to the party, who pronounced this opinion, whether great efforts are not usually made to lead the poor into this error.

To take another instance. An inquest was held at Mile End, New Town, before Mr. Baker, on the body of a child, aged 3½ years, named Right; and the verdict was, "that the deceased died a natural death by the visitation of God, brought on by want and disease, and extreme privation, and want of care." The mother, a squalid creature, said that her reason for not applying for parochial relief was that she had done so some time ago, and got so abused that she had not the heart to repeat her application†.

But we will forbear all further comment on these dreadful events, and pass on to the more immediate subject of this article—the medical relief of the poor under the new Act. A letter upon this important branch of national charity,

* Times, Sept. 18th, 1839.
† Ibid. Oct. 24th, 1839.

written with the usual ability of Serjeant Talfourd, appeared in our number for Sept. 21st, 1839, p. 973.

The first question considered by our learned and excellent ally, is the appointment of an additional commissioner, who is to be of the medical profession, and who is to act with the others in all points concerning medical relief, but who is not to vote on other discussions. This proposition is extremely good; for we must charitably allow that the mistakes of the present commissioners are in part attributable to ignorance; they have dealt out heavy blows and great discouragement to poverty, and the worst of it is, they have dealt them out in the dark. In future, if the medical commissioner is of tolerable mettle, his lay associates will not be able to plead want of knowledge as their excuse. The only qualification we see mentioned for the medical commissioner is that he must be a physician or surgeon of five years' standing. This qualification is easily found; but the temper and talents required for such an office, the faculty of nicely adjusting the right and the expedient, are rare indeed.

It is pretty clear that his opinions must be of a good presentable medium between humanity and utilitarian sentiments. If he thought much of healing the sick, and little of lowering the rates, he would be called a tender-hearted simpleton, perhaps even a philanthropist, and must expect to find himself in a constant minority. Every one has read of impish orgies, which are suddenly broken up by the utterance of some sacred words; and we should imagine that any one bold enough to pronounce the phrase—"rights of the poor," in a Somerset-House conclave, would produce as sudden an adjournment, as in those assemblies on the Harz Mountains. Publius Syrus observes that your dicer, the more skilful he is in his art, the worse he is as a man*. In like manner, your commissioner, the worse he was as a man, the more skilful would he be in lowering the rates; like the *aleator* of Publius Syrus, he would throw double sixes for himself, and deuce-ace for the mass of mankind!

It once happened during the bad old times, that Colonel Thompson, having sat upon a Court-martial where the prisoner was found guilty, proposed one hundred and fifty lashes as his punishment; but this number was so infinitely below the high-flown conceptions of those days, that he was asked by his brother-officers whether he meant to make a joke of the service? And we fear, that if a stout-hearted medical commissioner were to venture to tell his lay brethren what is really wanting for the relief of the suffering poor, he would be asked if he meant to make a joke of the Act. His three opponents would cry out, *quocunque modo rem*—a saving at any price!

Yet there is one misrepresentation of the economists which he ought to correct; it is the pretended statement of the quantity of food consumed by different classes in England, with the addition of what is given to transported criminals. This choice morsel, drawn up as a table, has been for years most extensively circulated, and has doubtless had its share in promoting the schemes of starvation. It has even made its way into France, where we find it in an article on Penitentiaries, contained in the *Gazette Médicale* of Sept. 21st, 1839. The translator has made the mistake of putting *par jour* instead of *par semaine*, but has otherwise, we believe, translated this precious little document very faithfully. Artisans at the highest wages, says the table, eat 140 ounces a week. Now this is just twenty

* Aleator, quanto in arte est melior, tanto est nequior.

ounces a day, or one pound avoirdupois and a quarter. Let us suppose this to consist of a pound of bread and four ounces of meat; what a wretched apology for a meal! But then these frustules are to serve for three meals; so we can only have half-a-pound of bread and the scrap of meat for dinner, four ounces of bread for breakfast, and the same quantity for tea or supper. Even in dear times the bread and meat will cost but fivepence; *i. e.* twopence-halfpenny for a pound of the former, and the same sum for four ounces of the latter; so that we imagine few picked workmen, earning from thirty-five to forty shillings a week, would push their asceticism quite so far. But it was necessary for the table. The highly-paid artisan comes immediately above the labourer, who is at starving point, marked by 122 ounces on the scale; and immediately below the workhouse poor, whose degree is 150. The next on the table are soldiers, who are supposed to eat only 168 ounces a week; this is twenty-four ounces, or exactly a pound and a half avoirdupois a day. We would request our readers to take their scales, and weighing out a pound of bread, and half a pound of meat, to calculate by their eye, or by a still more practical method, whether such a modicum would suffice for the daily invigoration of a colossal guardsman or grenadier. They will unanimously exclaim, "No!" and that there must be a mistake in the table; and so there is, for we learn from Dr. Hennen, Inspector of Military Hospitals, that a soldier has a pound of meat and two pounds of bread daily, making exactly double the supposed quantity. It would be truly strange if he had neither cheese, butter, nor vegetables, any one of which would add still more to the mortification of the economists. Four other classes follow, who are all (tabularly) better fed than soldiers; the fourth and most luxurious class of all being the transported, who are represented as consuming 330 ounces a week. This seems likely enough, as far as regards domestic or farm servants; as it is probably the minimum that will satisfy the cravings of a healthy stomach, and the farmers of Australia find it to their interest to have well-fed labourers. It must be unpleasant, at the best, to have servants in one's house, or on the grounds, who are all professed scoundrels; but a burglarious cook, or sheep-stealing footman, will not have so sharp an edge on his villany, if sated, as if starved. Hence it is clear, that if low diet is to be part of the punishment of transportation, this can only be effected by employing the convicts in government works; and the sole use of the convict number of ounces at the top of the table, is to show the quantity required by the honest labourer.

The second point considered by Serjeant Talfourd is the limitation of medical districts. It is proposed that no district entrusted to a single medical officer shall contain more than sixteen square miles, or a population of more than five thousand; except in towns, where a district of four square miles may include six thousand inhabitants; or of one square mile, ten thousand.

These limitations are, of course, excellent as far as they go, and will cut down many of the present districts. Yet those districts that come up to the maximum will still be too large, or too densely peopled. For even if the surgeon pursued his patients into the remotest nooks of his district on an untiring steed, those of the sick who must come or send to him would find the distance inconvenient, or, indeed, in many instances, prohibitory.

If a district of sixteen square miles forms a perfect square, which is the most favourable supposition, each side will be four miles in length, and a pa-

tient living at one corner will be more than five miles and a half in a geometrical straight line from the surgeon living at the opposite one; or, allowing for the winding of roads and lanes, about six; so that some one must walk twelve miles for the required mixture. This is an extreme case; but walks of five, six, or eight miles, will be too common. "My time is my estate," said a shrewd Italian; and rather than waste half the day in walking and waiting, the poor will abstain from the relief so uncomfortably proffered.

If a union, again, contains 10,000 inhabitants, during a sickly season the pauper patients will be beyond all visitable number; who can attend to 150 or 200 patients?

On the 19th of last September, an inquest was held at Northfleet, on the body of Harriet Court, a girl of 18. Mr. Parke, one of the surgeons of the North Aylesford Union, was sent for, and promised to come in the afternoon; "he had so many patients to attend, he did not know which to go to first." The verdict was—"Died by the visitation of God," to which the jury added, "that it is their opinion the medical arrangements under the new Poor Law Bill are both inefficient and cruel in their operation, and they cannot separate without expressing that opinion to the coroner." Mr. C. J. Carttar, the coroner, expressed his concurrence*.

These cases are, unfortunately, so common, that it is scarcely necessary to quote them; yet, when the question in debate is the size of districts, it is proper to show the effect of large districts, dense population, and inadequate salaries. Why mince the matter? Is it not clearer than the day, that scanty pay will produce negligent attendance? If the union surgeon will zealously attend the poor for his nominal salary of fifty or sixty pounds a year, we have no words to express our admiration of his benevolence; but we cannot get a thousand Howards at our bidding, and we must address ordinary motives to ordinary men.

With respect to the remuneration of the medical officers, Serjeant Talfourd proposes the establishment of a maximum and a minimum, but does not state what either should be. If we might be allowed to give a vote in so delicate a matter, we should say that £100 a year is a very paltry pittance for the smallest union known; it is about 5s. 6d. a day, a sum for which an attorney would not write a letter.

The last subject touched upon is the qualification of the medical officers. If he dispenses medicines, he must be a Licentiate of the Apothecaries' Company. Surely this is an unnecessary restriction; a retired army or navy surgeon, though he may never have appeared before the Worshipful Society, can make up pill or powder in the Higsbury Union as well as he did in the Peninsula, or the Mediterranean; we would not go so far as the author who published a book called "Medicine no Mystery," but certainly dispensing medicine is none. Perhaps it might be well to require either the diploma of physician from a university requiring residence, or the license of the Hall, from civilians; but the proposal is to make the Blackfriars' examination indispensable, as if it carried some special virtue in its train.

"It is also proposed, that if the district shall contain a medical practitioner duly qualified, who has resided for six months within it, desirous of undertaking the trust, he shall be preferred to a stranger."

This clause seems to have been rendered necessary by the conduct of the Commissioners, who have too often abused the immense power they possess, by sending down hungry clients from

* Times, Sept. 20, 1839.

London, to undersell the practitioners of a country town, probably already ground to the earth by homebred competition.

We are glad to hear from Serjeant Talfourd, that there is "a gratifying alteration in the tone of the Commissioners:" *veritas est magna, et prævalebit.*

His letter is admirable; we would wish every one of our readers to peruse and digest it. It is satisfactory to think that with such an advocate, our cause, which is in every sense the cause of the poor, is sure of attention: there is an echo in England if one but utters the words—justice and humanity.

SUCCESSFUL TREATMENT OF ERYSIPELAS BY RAW COTTON.

Dr. F. M. Robertson, of Augusta, Georgia, in a communication in the Southern Med. and Surg. Journ. (July, 1839,) states, "that he has employed raw cotton, in the treatment of erysipelas, as recommended by M. Reynaud, with very satisfactory results. Two cases in which it was employed are related. One of these was a little girl who had a week previous accidentally received a small wound, which penetrated through the scalp to the cranium. The wound had suppurated, and on close examination, Dr. R. found that it had taken on erysipelatous inflammation, which had extended to the right ear, and, on the forehead, as far as the nose, and appeared to be progressing over the entire scalp and face. It was in the afternoon when Dr. R. saw her: during the morning the febrile excitement was high, and she had been, occasionally delirious. Dr. R. immediately had the hair cut as close as it could be, with a pair of scissors, and a cold bread and milk poultice applied to the wound, and the entire scalp of the forehead covered with thin bats of cotton, as in the former case, at the same time, a dose of calomel, to be followed by Epsom salts, was administered. The relief from the cotton was immediate; all the bad symptoms were relieved, and, after the operation of the medicine, the general excitement was moderated and the delirium did not return again. In this case the inflammation progressed as far as the cheeks, and to the left ear. The cotton could not be applied over the eyes and nose, as the patient was too young to understand the importance of submitting to such a cumbersome application; it, however, arrested its further progress from the cheeks and scalp. All the local symptoms were relieved as soon as the cotton was applied; no blisters formed on the forehead or cheeks, and the desquamation of the cuticle was very slight: much less than I have ever seen it in the mildest case of this disease, when treated without cotton. During the progress of this case, which lasted for seven days, the only internal medicine administered, except the first cathartic, was an occasional saline aperient and cold lemonade or soda water, made by dissolving the common soda powders of the shops.—*American Journal of the Medical Sciences.*

YELLOW FEVER.

To the Editor of the Medical Gazette.

Sir,

Several weeks ago I transmitted a letter for publication in the Medical Gazette, being a reply to one from Surgeon Fergusson, of the Royal African Corps, setting forth the contagious nature of yellow fever whenever it appeared on the Western Coast of Africa, with the exception of Sierra Leone, where Mr Fergusson stated "it was ever the undoubted product of the colony itself;" but that at all the other stations of the coast it could have no existence unless it was imported in ships. As this doctrine appeared to me to be equally erroneous and pernicious, I wrote an answer to it; but I now perceive, in the number of the Medical Gazette just published, that you decline giving it insertion on the same terms (and I can admit of no other) as those you accorded to Surgeon Fergusson. *Audi alteram partem* is a maxim of no more than the commonest justice; and the public journalist who refuses it must be understood as advocating a particular set of opinions only, and as no longer holding the balance of even justice, or making truth the object of his search through the channels of fair lengthened discussion. He, in fact, lends his pages to the spread of what I, and a great majority of the most experienced medical officers of the army and navy, consider to be an abuse and poison of the public mind on a most important question of medical science; supporting it by the authenticated signature of a medical officer, who, by the act of publishing, challenges me and all the world to the discussion; and immediately thereafter closes them (except on unfair terms) against the antidote that very challenge called forth. I did not begin the controversy; it was forced upon me;

and yet you refuse me a hearing. Is this fair between man and man? From your character and station in the world you must know it to be far otherwise. The MEDICAL GAZETTE has hitherto supported an unblemished reputation for impartiality; but that reputation will be tarnished in the estimation of every honourable mind, should you still deny a place in its pages to my original letter, or, failing that, to the one I am now indicting.

I remain, sir,

Your most obedient servant,

W. FERGUSSON M.D.

Inspector-General of Hospitals, H.P.

Windsor, Oct. 28th, 1839.

[We hope that Dr. Fergusson is now satisfied! Any one, we presume, on reading the preceding letter, would suppose that his name-sake, of Sierra-Leone, had made especial reference to him, and that a controversy had been going on which we now chose abruptly to terminate; but the fact is, that the party to whom he wishes to reply, has made no reference whatever to Dr. Fergusson, and that admitting his communication would be to originate a new discussion on an uninteresting subject. Our respected correspondent at Windsor attaches much more importance to the disquisition on the yellow fever than we imagine our readers generally do; and we feel assured that they will not find fault with our confining all argument on the subject to our extra-limites department: a determination from which the above letter does not induce us to swerve. —ED. GAZ.]

ADDENBROOKE'S HOSPITAL.

DR. HAVILAND, Regius Professor of Physic in Cambridge, has resigned the office of physician to Addenbrooke's Hospital. His successor is Dr. Paget, of Caius College.

BOOKS RECEIVED FOR REVIEW.

A Practical Treatise on the Diseases of the Eye. By William Mackenzie, M.D., Surgeon-Oculist in Scotland in ordinary to her Majesty, Lecturer on the Eye in the University of Glasgow, and one of the Surgeons to the Glasgow Eye Infirmary; to which is prefixed an Anatomical Introduction explanatory of a Horizontal Section of the Human Eyeball. By Thomas Wharton Jones, Surgeon. Third edition. Longman & Co.; pp. 923.

A Dictionary of Materia Medica and Practical Pharmacy, including a translation of the Formulæ of the London Pharmacopœia. By William Thomas Brande, &c. &c. &c. Parker; pp. 591.

Illustrations of Osteology. By Theodore S. G. Boisragon, M.D., Physician to the Cheltenham Dispensary. Highley.

Commentaries on Diseases of the Skin. By Anthony Todd Thomson, M.D., &c. &c. With illustrations, drawn, lithographed, and coloured, by Mr. Joseph Perry. Fasciculus I. containing Lepra. Taylor and Walton.

Elements of Physiology. By J. Müller, M.D. of Berlin. Translated from the German, by William Baly, M.D. Illustrated with steel plates and numerous wood engravings. Second edit. Part I. containing General Physiology, the Blood and Circulating System, the Lymph and Lymphatic System, Respiration, Nutrition, Growth, and Reproduction. Taylor and Walton; pp. 471.

Anatomical Plates. Edited by Jones Quain, M.D., and W. J. E. Wilson. Division IV. — Viscera, VII. containing the Minute Anatomy of the Liver, beautifully illustrated. Taylor and Walton.

A Treatise on Obstetric Auscultation. By Dr. H. E. Naegele. Translated from the German, by Charles West, M.D., &c. Renshaw; pp. 120.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Nov.* 5, 1839.

Age and Debility	21	Hooping Cough	1
Apoplexy	2	Inflammation	9
Asthma	3	Bowels & Stomach	6
Childbirth	2	Brain	1
Consumption	25	Lungs and Pleura	6
Convulsions	18	Insanity	1
Dentition	9	Jaundice	2
Dropsy	6	Measles	8
Dropsy in the Brain	1	Paralysis	1
Dropsy in the Chest	1	Thrush	1
Erysipelas	1	Unknown Causes	53
Fever	10		
Fever, Scarlet	12	Casualties	7
Heart, diseased	2		

Decrease of Burials, as compared with the preceding week . . . 122

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Oct.	THERMOMETER.		BAROMETER.	
Thursday . 24	from 48	to 51	29·95	to 30·01
Friday . . 25	42	51	30·12	30·22
Saturday . 26	40	52	30·20	30·21
Sunday . . 27	35	49	30·17	30·13
Monday . . 28	36	48	30·16	30·24
Tuesday . . 29	35	46	30·22	30·13
Wednesday 30	38	47	30·06	29·98

Prevailing wind, N.E.

Except the mornings of the 26th, 27th, and afternoon of the 29th, cloudy; with frequent showers of rain.

Rain fallen, ·6625 of an inch.

CHARLES HENRY ADAMS.

W. OGILVY, Printer, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, NOVEMBER 15, 1839.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.

INFLAMMATION—*continued.*

Value of external signs; how produced—Succession of changes—Stases—Changes in the blood—Its vitality?—Accidental secretions—False membrane—Induration—Softening—Summary—General principles of treatment.

Undoubtedly the local phenomena of inflammation constitute, when co-existent, an incontestable evidence of the existence of that morbid condition, but taken separately they do not offer the same value. The *redness* may be simulated, in all its forms and all its shades, by any mechanical obstacle to the venous circulation. Again, it is neeessary to be on our guard, in examinations after death, against the congestion and colour produced in certain parts by position. Inflammatory redness is much lessened after death; Bichat even insisted on the possibility of its complete disappearanee in all parts: in the case of membranes it may no doubt happen, but only in slight cases. Though *pain* may be one of the most constant signs of inflammation, yet it may be wanting in chronic inflammation, and even occasionally in acute when the texture of the part is so lax as to lend itself easily to expansion. Still when pain exists, it follows inflammation so closely that it may be regarded as a fully exact measure of its increase or diminution. *Heat* is very closely attached to acute inflammation, and is rarely wanting; but its absence, as well as that of pain, is a fundamental character of many chronie inflammations. *Swelling* may belong to a great number of lesions of nutrition other than inflammation. Therefore we hold that there is none of these local signs, though they may be usually most appreciable, which possesses a decided value. The accidental products of secretion alone furnish the true pathognomonic signs of inflammation, and among these lymph and pus hold the first place.

The *redness* is explained by the plenitude and increased caliber of the capillary vessels, and by the formation of new ones. The state of the blood in these vessels explains the different shades of inflammatory redness. Already, without the microseope, it had been said by Hunter that the intense redness of certain inflammations could only be explained by assuming, that the red blood passed unchanged from the arteries to the veins. We have seen that microscopic experiments perfectly demonstrated this phenomenon. Again, when inflammation is confirmed, microscopic experiments have shewn the blood gradually losing its globular appearance, and becoming darker in colour: these observations agree with those made by Hunter on the influence of the stases of the blood on its coagulability and colour, and account for the various shades presented in inflammation. The *swelling* is accounted for by the repletion of the vessels, the formation of new capillaries, and the infiltration of the tissues by the products of accidental seerction. *Heat* is owing to innervation and the movement of the blood, but its increase will be in a pretty exaet ratio with the activity which will be impressed upon the inflammation by these two sources of its production. As to *pain*, as it is impossible, says Hunter, that any extraordinary operation should be established in the body without sensation making us aware of it, we cannot suppose that the rapid change of the natural condition which supervenes

in an inflamed part should occur without producing a sensation which may amount to pain. Those organs even, where nerves have not been discovered, become painful on inflammation. The explanation of this subject, which has been embarrassing —which was one of the grounds which induced Bichat to maintain, that innervation had nothing to do with inflammation —indicates nothing else than that inflammation demonstrates nerves where the scalpel cannot. As to those parts manifestly provided with nerves, it would seem easy to interpret the pain by the lesion of these nerves. Men have sought to ascertain whether the lesion were hypertrophy, distension, or other tangible state; but they have not succeeded: and this is not astonishing, says Hunter, "the nerves are only simple messengers of intelligence, which have nothing to do with organic phenomena." Although we may not be disposed rigorously to adopt this opinion of Hunter, it is nevertheless true, that we know not in what consists the modifications which the nerves suffer in inflammation; their distension and their irritation by the afflux of blood is conceived, and may be reasonably adopted.

Inflammation commences, then, it is very evident, by an innervation which may be called *plastic*, the immediate effect of which is to direct certain fluids to the seat of irritation. The blood is not only forced, as it were, into the capillary vessels of the irritated organ, but fixed and retained there. Now that which retains it is not a mechanical obstacle opposed to its return; on the contrary, it is a vital disposition, to which some pathologists have applied the term *spasm*, but as spasm would imply constriction, the term is clearly inapplicable. It is clear that certain vital, and at present inappreciable changes, render inflammation dangerous or otherwise; the danger rarely bears any very direct relation with the physical and material signs. In fact, in cases of violent death as a consequence of inflammation, we are surprised on opening the bodies at the very insignificant traces of organic lesions which are presented. Take, for example, acute pericarditis; what do we find after death? Some arborizations—a reddish marbled colour of the serous membrane; whilst tissues deeply inflamed have not occasioned during the life of the subject any considerable disturbance. Now the changes which are brought about in the capillary system of an inflamed organ have, as we have seen, been made the subject of careful examination. This net-work, upon which the stimulus is fixed, is destined to react against it; it becomes the seat of greater vital activity. This is proved by the pulsations which are felt, the heat which is developed, the sensibility which is exalted, and the secretions which are poured out. It is then the capillary system which is the seat of inflammatory action, and not the cellular or parenchymatous tissue, as was maintained by Platner, Haller, and Brandes. That the congestion of blood which irritation determines in a part manifestly dilates the capillaries of a part, is shewn by the experiment of John Hunter on a rabbit's ear, and by others. It is not important to seek to determine, whether the capillary vessels are, or are not, endowed with a true contractility, and, as a consequence, capable of exciting the phenomena which are attributed to their increased activity. If after the opinion sustained by many persons, and reproduced by Magendie, the arteries have only a contractile action, by means of which the blood is pushed out through the capillary tissue into the veins, the capillary system itself is not endowed with any action. Now the experiments of Thomson upon the web of the frog's foot, in which it is easy to follow the course of the blood in the smallest vessels, clearly demonstrates this contractility: similar results were obtained by Hastings, Kaltenbrunner, and, Gendrin, who having employed different stimuli, observed under the microscope the dilatation of these vessels, and their passive state after strong and repeated contractions.

There is, then, in an inflamed organ not only a decided congestion or stagnation of blood, as a consequence of irritation — there are not only physical and apparent changes in the affected tissue—but it becomes also a seat of irritation *consequent* upon this state of things, and this irritation may be propagated to the whole system, and constitutes *reaction*. When this is very considerable, *fever* is the result. There is not, in fact, any inflammation, if a little intense, which does not light up consecutive fever; and here we may say with Frank, "that fever is to the principal disease what the shadow is to a body (febris certorum malorum potius umbra quam ipse morbus est.") We may, however, see an opposite state of things; we may see fevers lighting up local inflammation. Force a horse to his speed, and maintain it long—hunt a stag, or other animal; his agitation will be great, his arterial system will be violently agitated, the blood will be pushed with great force into the capillaries, and you will find on opening him after death, unequivocal traces of inflammation in many organs. There are many cases where fever precedes the local affection. Is bubo or carbuncle manifested as a first phenomenon in persons affected with plague? Does the gangrenous sore throat precede certain fevers?—the efflorescence of the lips certain

ephemeral fevers?—the pustules of small-pox, the patches of measles or scarlatina, do they precede the fever? I say, certainly not; therefore, it is evident that general excitement may produce local inflammation.

The series of organic lesions and functional disturbances by which inflammation is characterized pass through many distinct periods. It is at first a simple congestion, accompanied by a certain redness, but with that exception the tissues present no anatomical characters which do not belong to them in the state of health, neither are the functions of the organ much disturbed. This congestion, during which microscopic examination has shewn us that the capillary circulation is alone excited, is not inflammation, and, if this state be dissipated, inflammation will not occur. Kaltenbrunner, as we have seen, carefully observed the capillary action which marks its diminution, and has shewn the kind of critical secretion, sometimes serous, sometimes sanguinolent, which it leaves here and there in the cellular tissue. When, on the contrary, the congestion is only the first period of inflammation, the redness increases, the organs tumefy, their consistency diminishes. This is the period of the stasis of blood in the capillaries; it is that of confirmed inflammation. This course of inflammation is more or less rapid; from this comes its distinction into *acute* and *chronic*, the exact limits of which it is difficult to determine. The development of the periods of inflammatory action, whatever may be the duration, affects the continued type, from beginning to end, and always requires a certain time for its accomplishment: it can never assume an intermittent type, as some think; it cannot exist and be dissipated in a few minutes. Those statements, it is evident, can only refer to simple congestions, transient as the stimulus which excited them, and which have never acquired intensity enough to light up a true inflammation.

Having exposed at sufficient length those observations which are most entitled to credit, relative to the state of the capillary vessels in a state of inflammation—because it is the foundation of modern pathological anatomy, and the only legitimate basis for a theory of inflammation — it can hardly be necessary for me to occupy your minds with the theories of Brown and his disciples, or those of the partisans of the philosophy of nature. It was clearly not by pathological anatomy that the *incitabilists*, whose minds disdained to consider the changes of form and structure of organized matter, derived the notion of two opposite species of inflammation—sthenic and asthenic. Neither is it likely that either the scalpel or the microscope furnished Troxler with the idea, that inflammation is a "tendency to the solution of the organic individuality;" to Gutfeld, that it consists in "a disproportion of fundamental functions;" to Marcus, that it depends on "an alteration of the second moment in the second dimension of the organism." Burdach, Walter, Seiler, Sprengel, and Dzondi, were less wide astray from the experimental method and the best established opinions, in considering inflammation as "an abnormal augmentation of the organic incitation in the capillary vessels, joined to a change in the plastic power;" though they were not a little too fanciful in seeking the explanation of the phenomena of disease in the laws which regulate the universal powers of nature. The explanation of the phenomena I have just described forms a small part of the anatomical history of inflammation generally considered. Those phenomena, which have been improperly named terminations of the disease, are perhaps those which offer most interest and most difficulty. Besides *resolution*, or the return of the part to its natural state—which constitutes indeed the only true termination—the phenomena which may succeed to those we have been studying are too many and too complex for any of them to be considered as leading directly to a cure. The truth is, the same affection, inflammation, is continued under different forms, which have received particular names, and of which each has been the object of a multitude of works, such as induration, softening, suppuration, ulceration, gangrene. We must now proceed to inquire what changes are brought about in the blood and the products of secretion.

The act of inflammation brings about certain changes in the blood; of these, some are appreciable to our senses, others, though invisible, may nevertheless be demonstrated by reason. Nothing is more common than the alteration termed *buff*, which is shewn at the surface of the clot of blood taken from a vein, under the appearance of a layer of suet. Viscid, soft, and filamentous, at first, it does not become dense and strongly adherent to the cruor until the coagulation of the clot is complete. Considered chemically, the clot is completely dissolved in warm water when it is soft and mucous, incompletely when it is condensed. Water saturated with nitrate or carbonate of potash, or dilute acetic acid, dissolves the buff, but the action of concentrated mineral oxides augments its density. The result of these experiments would imply that the buff is composed of fibrin and albumen, or fibrin and very albuminous serum. There are certain circumstances which favour the formation of the clot upon the blood of individuals who are plethoric or attacked with inflamma-

tion: 1st, a sufficiently large opening in the vein; 2d, a projecting jet of blood; 3d, the form of the recipient, which should not be wide, but deep; 4th, the temperature of the vessel in which it is reeeived, and which should not be cold; 5th, repose after its fall into the recipient. Gendrin has prevented the formation by letting flow into the vessel at the same time with the blood a small stream of a solution of caustic potash: it is equally prevented by letting the blood flow from a height, drop by drop. He has also observed that blood taken at the same time from both arms is identieal, though the inflammation may affeet only one side; that if we perform two bleedings with an interval of ten or fifteen minutes, the blood of the first presents buff, that of the second does not; but if we bleed a third time, some hours afterwards, the blood is again buffed; that when a buffy bleeding is interrupted by syneope, the blood flowing after the syneope shews no buff. He showed further, that the buff is not the only change in inflammatory blood, but that the clot is denser and smaller, showing a greater contractility in its elements; that in inflammatory blood the serum is more viscous and less coloured than in healthy blood, and that it eontains almost a double proportion of albumen; that its density and buff are in relation with the different periods of inflammation. Whatever may be the cause whieh increases the quantity of fibrin and albumen in inflammatory blood, and whatever may be the mechanism by whieh the augmentation of plasticity and of fibrin occasions the absence of eolouring matter in a part of the clot, it is, I believe, true that these ehanges are brought about under the influence of some vital aetion.

It may be as well here to say a few words on the vitality of the blood. The fluids, like the solids, possess a power of resisting causes whieh tend to their destruetion. This is proved by Hunter's experiments upon the egg and the blood—experiments in whieh these fluids, in an unaltered state, have resisted congelation for a longer time than those whose physiological properties had been destroyed by a previous congelation. He also shewed that the eoagulation of the blood did not depend upon the eontact of air, since it coagulates sooner in space, nor from rest alone, since it sometimes coagulates while circulating. Something else must, therefore, be found to explain it—its vitality. Physiological experiments shew that poisons which destroy the vitality of the solids, however small the quantity employed, produee almost instantaneous ehanges in the eomposition of blood, either eoagulating or destroying it. Fontana has seen the whole of the blood in a sparrow blackened and coagulated by a single drop of the venom of a viper. Tiedemann and Gmelin, and Orfila, show that in poisoning with mereury the blood remains fluid; others have shown that it is blackened and very fluid in poisoning by arsenic (Jæger); that in poisoning by prussie acid it is changed into a black, viscous, gluey matter, of the consistency of oil (Ittrier); and that the electric fluid, at the same time that it destroys museular irritability, liquefies the blood, and prevents coagulation. The microscopie observations of Home, Brand, Prevost and Dumas, whieh demonstrate not only the partieular form, but also the intrinsic movements of globules during coagulation, also induee an impression of their vitality. In fact, when we examine, through a mieroscope whieh enlarges a hundred and fifty times, blood recently taken from a vein, we see a kind of gyrating movement of the whole mass. The phenomenon lasts for some time after the blood is removed, then it coagulates, and another sort of movement is described, pereeived by Heidmann. We see a kind of reticular tissue, which moves for many minutes, and whieh resembles feeble muscular eontraetions. Dilute muriatic aeid increases this movement, whilst stronger acids immediately destroy it. Whether, as some have done, we should place the blood on the same line with infusory animals, may be very questionable. If, says Edwards, the electric spark is passed through a drop of blood, we shall see the moleeules which it eontains take at once a strawberry-like arrangement, which indicates the partial separation of the elementary globules of whieh it is formed. If we make the same experiment on a fluid containing infusory spermatic animalcules, we shall observe the same effeet; at the same moment these beings will lose the spontaneous movement with which they were endowed. Looking at these faets, we are astonished at the insignificant part which the blood has been disposed to play, and might be tempted to attribute to it a greater measure of vitality than it really possesses. And if such be the nature of the blood in the natural order, how much more remarkable may its qualities be in the pathologieal state. But if, on the one hand, proofs are presented in support of the belief of an exalted vitality of the blood under inflammatory aetion, there are others which demonstrate the alteration of this fluid under opposite eireumstanees, and when the blood is otherwise modified. The ancients knew that in malignant fevers the clot is absolutely diffluent. Dr. Stocker established the same fact in epidemic typhus in Dublin; Gendrin has shewn the septic qualities of the blood in

putrid fevers, and also that blood taken from variolous patients had not only an inflammatory character, but also deleterious qualities, so much so that, when injected into the veins of animals, it excited in them mortal inflammations.

In the condition of health all the tissues are bathed with a fluid in the state of vapour. We may ascertain its presence by making an incision into the cellular or other tissue. We can also ascertain the nature of this fluid by the following experiment. Produce artificial œdema, by making a circular pressure around a limb without including the principal artery. After some hours the limb is much infiltrated by a serous fluid, which does not spontaneously coagulate, but may be easily coagulated by alcohol or a weak acid. This fluid is evidently an albuminous serum, like that of œdema produced by disease, or the serum of the blood. Immerse the tissue in alcohol or boiling water, and we obtain whitish yellow jelly, most abundant where the cellular tissue is most lax. That which is most important to establish is, that a similar coagulation is not spontaneous; therefore the infiltrated fluid does not contain fibrin—for the faculty of spontaneous coagulation is the most marked characteristic of fibrin. Examined by means of the microscope, when perfectly fluid, no globules are apparent; when half dried, some irregular globules are apparent, smaller than those of the blood; in fact, like those of dried serum. The character of the fluids ordinarily secreted in the absence of inflammation it is important to bear in mind. When inflammation exists even in its congestive state, the quantity of this fluid is usually increased; but as soon as the inflammation has acquired a certain intensity, a certain portion of this matter undergoes a jelly-like coagulation, extending to the limits of the inflammation; a certain portion remains fluid. If the inflammation be more intense, the infiltrated fluid, of a darkish red colour, is spontaneously coagulated. It is then sanguinolent, or even pure blood at the centre, and around the circumference the gelatinous infiltration prevails. Still, further, it becomes serous, yellowish, or even almost colourless. Examined through the microscope, we see in the bloody and coagulated mass globules of blood deprived of their colouring matter, which is separated from them almost as soon as they escape from the vessel (Gendrin.) At the limits of this coloured matter these molecules are more rare. There are some cases in which, for the purpose of examination, we may collect a sufficient quantity of the fluids produced by inflammation, before suppuration is established: this is best done in inflammation of arteries, whose cavity is a sort of recipient for them. Barruel analysed the coagulable substance which is exhaled at the exterior, in the cavity, and in the thickness of the parietes of an artery tied with a ligature. This white soft matter, which presented a sort of fibrinous texture, is not dissolved in cold water. Subjected to boiling water it was not dissolved, but it became solid, and contracted a little upon itself; then, broken into pieces, a distinctly fibrinous structure was shown. Plunged into a warm solution of caustic potash, the greater part was dissolved, but less promptly than that of thickened albumen, a little more rapidly than fibrin. If we follow the formation of this coagulable substance from its origin, we discover that it is primitively formed of an albuminous serosity, which becomes more and more fibrinous and spontaneously coagulable as the inflammation is more intense.

Whatever may be the place where this lymph is deposited, whether on the surface of organs, in their substance or their parenchyma, the product and the effects are the same. In one and the other this lymph is coagulated, thickens, changes its nature, and in the end may become organized, and vitally connected with the tissues with which it is in contact. No doubt this is the source of many organic transformations. It may be a question whether transformations do not differ from degenerations in this—that in the former the exuded matter is susceptible of becoming organized, while in degenerations the substance which forms them can never enter into organic relations with the ancient tissue, and cannot become the germ of new tissues similar to the old. This lymph is soft, viscous, filamentous, and pulpy: in chemical composition it seems to be formed in great part of fibrin. Moore, I apprehend, was quite wrong in maintaining that it had never been fluid. How could it escape from the vessels in the form of membranes? Its colour is white, yellow, or greyish: its thickness upon the surface of inflamed organs varies from the tenth of a line to an inch. It is sometimes deposited between many layers, between which a serous fluid is occasionally found. In other circumstances, independently of the coagulating lymph, a certain quantity of serum is found in certain dropsies. This we know, by chemical analysis, that the serous fluid becomes more rich in plastic and organizable matter in proportion to the progress of the inflammation; receiving, of course, from the blood a greater quantity of albumen and fibrin. As to its appearance, it is at first amorphous; much as we see it in the buffy coat in inflammation. It does not,

however, remain long in this state, but soon acquires a flocculent appearance, is filamentous or reticulated, and porous; something like the membrana caduca of the uterus. A little later it exhibits in its substance spots of blood, then streaks, which have the appearance of vascular ramifications, and at last these streaks are transformed into true canals, containing blood, and inosculating with the old vessels of the organ on which the exudation takes place. This lymph is the medium of union in those wounds which heal without suppuration, and between inflamed parts. It is through its agency that the pleura pulmonalis unites with the pleura costalis, the intestines to the peritoneum, the Fallopian tubes to the ovaries, &c. Serous membranes, more frequently than any others, are the seat of this exudation. After the serous membranes come the mucous, and next, probably, the internal tunics of vessels. In the mucous surfaces the lymph forms cylindrical concretions, which take the form of the tubes in which they are found; such are the macaroni-like tubes sometimes spit up from the bronchiæ. All these layers of lymph upon surfaces constitute, what are termed, *false membranes*, the nature of which I shall now point out to you. We may admit four states or periods in the development of false membrane: first, the period of formation; second, that of increase; third, that of organization; fourth, that of mutation into cellular tissue. In the first period, twenty-four hours after we inflame a serous membrane, we find it much injected, and upon its surface an extremely thin and tender layer of a pulpy villous substance, like so much gauze or cobweb, which the slightest friction would remove: this thin pellicle has one surface applied upon the serous tunic, the other free, villous, and sometimes mammillated. The second period begins as soon as the exudation has a membranous appearance, and is characterized by increase of thickness and density of the false membrane. We sometimes find inflamed organs which exhibit the lymph in different degrees of consistency of aspect, and even of organization. I have seen on the same lung, in consequence of inflammation of the pleura, the layer of lymph at one point scarcely adherent to the surface; in another, strongly adherent; in a third, beautifully reticular. The third period is characterized by the density and by the presence of blood-vessels. Stoll believed they might be organized in twelve days, sometimes even in eight or nine, from the invasion of the disease. Home said vessels might appear in them in twenty-four hours. The concretion of albumen is not owing to the heat of the part, because for this purpose a temperature of 160° is required; it is a vital act, more easily observed than comprehended. In the fourth period it undergoes a change in appearance, becomes thinner, and daily more like cellular tissue; and before long presents diaphanous laminæ, extremely thin, soft, and arranged like those of cellular tissue. There is not only identity of appearance with cellular tissue, but also identity of use, and even of diseases; and it never contains fatty matter.

Another change, to which tissues affected with inflammation are liable, is an increase of density and of cohesion. This change is more commonly a consequence of slow or chronic than acute inflammation. It is produced in the following way:—The serous fluid which is exhaled from the blood-vessels in a state of inflammation becomes more and more charged with fibro-albuminous matter; it distends the cellular tissue, becomes concrete under the influence of inflammatory action, and may become organized. The cells, therefore, instead of containing a gaseous, or fluid matter, are distended by this concrete or organized matter, and *induration*, with or without sensible tumefaction and change of colour, is the consequence. Under any circumstance this condition is not soon dissipated: if the matter be still unorganized, we can often act upon it by exciting the absorbents to increased action, by means of stimuli; but, before these are used, inflammatory action should be subdued. If the matter have become organized, our efforts to procure its removal through absorbent action will be useless. The tumefaction will remain, and the new matter may or may not assume certain of the characters of the tissue in which it is developed. It may, on the contrary, be a non-analogous tissue—may continue to increase — may constitute a tumor of varying physical characters. Although the irritation which has produced this state of things has ceased, it often happens that the molecules of matter deposited under its influence continue to be nourished and to live; more blood is necessarily directed to the part, and the vital action is increased. There are cases where an opposite condition is manifested, where the vitality is lessened, where the colour is paler, and where masses of matter seem almost inert; and by these circumstances it is easy to explain the success of opposite modes of treatment.

Another change may be brought about in the texture of an inflamed part, at the same time that the absolute weight and specific gravity of an organ are increased; its cohesion may be diminished; and this constitutes the state of *softening*. Vaguely described by the older anatomists, it has

much occupied the attention of modern observers. There is scarcely any organ in the human body in which the condition has not been demonstrated. The most solid parts cannot resist it; the cornea in ophthalmia, the arteries in arteritis, the bones in certain varieties of white swelling, all suffer. It may present itself in a tissue which is still solid, but which may be ruptured, perforated, or destroyed, with the greatest facility; it may proceed farther, and, instead of a solid, we find only a pulpy mass; or still, further, when this pulp has disappeared, and only *débris* of the original structure remain. This condition may be brought about in a very few days, even in a few hours; the inflammatory action may be either chronic or acute. It is necessary very carefully to discriminate between *induration* and *softening*. In a case of acute pneumonia, the blood by which the bronchial parietes are gorged, by tumefying these parts, may efface the air-passage; no air penetrates, and the consistency of the pulmonary parenchyma seems to be singularly increased; but it is only in appearance; the slightest traction is sufficient to break it down; the finger passes through it easily. Cohesion, therefore, is the test; otherwise we may confound increase of density with increase of consistency.

I shall now proceed to give you a summary of what is best established upon this very interesting and highly important subject. We have clear demonstrative evidence that by exciting pain upon any part of the body supplied with blood-vessels, unless the stimulus be too intense, or possess peculiar chemical properties, the capillary vessels at the irritated point undergo immediate contraction; the blood contained in those vessels is pressed forward more rapidly, and the part upon which the irritation is applied is at that moment paler than in its natural condition. To this state succeeds another, similar to that of blushing, violent exercise, and so on: the previously contracted capillary vessels present an opposite condition, their contractile power is exhausted, and they become considerably dilated; and those which did not before present a sufficient diameter to admit the red globules of blood, now admit them freely; but this altered condition of the vessels is accompanied by an altered condition of the blood; instead of moving rapidly, as it did during the contraction of the capillaries, a decreasing velocity soon becomes apparent, the movement of the blood becomes slower and slower, the dilatation of the vessels increases, and after a short time stagnation is complete. This state of *congestion* may be dissipated (if the source of irritation ceases) by the vessels themselves becoming sufficiently recruited to contract anew, and with sufficient force to cause the blood again to circulate; or, in the absence of that power, by the application of a different or more energetic stimulus. Thus, a frog's web being soaked in a solution of muriate of soda, the vessels being dilated, the blood retarded, and losing its globular appearance, the state was completely dissipated by the application of alcohol, the vessels contracted anew, the blood circulated, resumed its globular appearance and its red colour. This condition may be diminished by the application of cold, acetate of lead, and similar topics: these agents lessen the vascular action by producing contraction: this is evident by the paleness they produce; astringent tonics may succeed if the former fail. That such is the *modus operandi* of cold is shewn by the experiments of Poisseuille: he has kept tadpoles at a temperature of 77°; into the water in which they were kept he has put a piece of ice; the circulation in the capillaries became slower, the globules of blood were elongated and became pyriform in attempting to pass along the vessels, and assumed their primitive condition as soon as they had traversed the channels thus narrowed. If left longer in water, the temperature of which was thus reduced to one or two degrees Reaumur, the circulation ceased in the greater number of the capillaries. The same experiment was repeated on the bladder of very young field-mice; the contact of ice, for only a few minutes, produced a complete and permanent abolition of the circulation. The local abstraction of blood, by emptying or relieving the tension of the vessels, gives them time to contract: this may be well shown by a familiar case. A child is seen with a suffused face, red and irritable conjunctiva, intolerance of light; the head is heavy; he sneezes; his frontal veins are dilated; his nose bleeds; and he is cured. The hæmorrhage does not recur; an erysipelas of the face, ophthalmia, inflammation of the brain, or some such visitation, is the consequence. Such are the principles of treatment of congestion, whether it end there, or whether it be the first stage of inflammation. Indeed, between this condition and inflammation, it is very difficult, if not impossible, to set a broad line of demarcation. Before we proceed further it may be as well to consider, shortly, how this state of dilatation of the capillary vesels is brought about. Some persons believe in the existence of an "active dilatation" of these vessels, as a consequence of which blood is "solicited" or "aspired" into them; in this way referring all action in the matter to the capillaries. To this doctrine I cannot

assent, because I know no analogy in support of it. That dilatation should succeed to contraction is perfectly intelligible, for it is only an exaggeration of the laws of vital action—a state of activity and repose—contraction and relaxation being invariable consecutive conditions of the organs of the body; but *that* repose, or *that* dilatation, cannot, I apprehend, produce a diameter greater than is natural to those vessels. Another cause of this condition must, therefore, be sought, and I see no difficulty in accepting, as *that* cause, the increased action excited in the vessels around the part. The contractility excited in the affected capillaries being exhausted, a period of repose follows; the surrounding vessels continue to act vigorously, propelling blood in all directions upon the irritated point: advantage is taken of their exhaustion; they offer no resistance, become inordinately dilated, and unable to contract with sufficient energy to expel their contents. I think the best distinction which can be drawn between congestion and inflammation is to hold that where stagnation is incomplete—where it is not more than can be easily dissipated, and no exhalation occurs—it is a state of congestion; and that, when stagnation is complete, inflammation is developed. Pass this period, stagnation being complete, the tendency to coagulation of the blood is more decided; the globules are, as it were, glued together—their colour is darker or browner; the ordinary secretions are momentarily interrupted: soon an exhalation takes place, the fluid is more or less perfectly serous or sanguineous; soon we shall observe a softening of the tissues, produced by this infiltration, and a gradual decoloration of the stagnated blood. This infiltrated serous fluid, more or less charged with fibrin, undergoes remarkable changes: when exhaled upon certain inflamed surfaces its fibrin is coagulated, and constitutes false membranes; when exhaled into the substance of tissues, the fibrin may still be separated in the same manner, and often constitutes the nucleus of tumors. When this infiltration into the interstices of vessels is effected, it adds to the irritation which produced the congestion; it increases the sensibility; so that, for a simple, stinging heat, we see a tensive, dragging pain substituted.

When inflammation has once fairly set in, the blood is fairly stagnated, coagulated, and when topical applications, such as we alluded to in speaking of congestion, are insufficient again to set it in motion. —when the surrounding tissues are infiltrated, and when the irritation has gradually extended to the whole system, producing sympathetic fever—when increased general vascular action tends to increase the local evil—other modes of treatment must be resorted to.

The first object of care is to remove, if practicable, the cause of local irritation, as a means of lessening the afflux of fluids. We must then attend to a *second* source of irritation, which is the pain occasioned by the distension of the tissues, by the arrival of an increased quantity of blood: this may be so great as to distend the vessels to twice or three times their natural size: this new ingress may be lessened by cold, by emollients, by sedatives; but they may be quite insufficient, and local and general abstraction of blood may be necessary, in quantity dependent upon the intensity of the symptoms. And as I have already shown you that the blood in this condition of the economy undergoes considerable change in its quality, becoming a greater excitant, it requires tempering: this is to be done by the exhibition of diluent fluids, by which it is diluted, the proportion of serum being increased. If inflammatory action be not very intense, the use of these means, which constitutes the antiphlogistic plan of treatment, may be sufficient to lessen the afflux of blood, to restore the capillary circulation to its natural condition, and to dissipate the local disturbance. But when the inflammatory action is more intense, or has existed longer, although the afflux of fluids may be moderated by the means indicated, yet the gorged capillaries are unable to resume their wonted character; it may be necessary to resort to a tonic or even a stimulating plan, to give them the energy they have lost; following out, in fact, the plan which the microscopic experiments, to which we have alluded, by Wilson Philip, Hastings, and Kaltenbrunner, have shewn to be capable of exciting contraction, in these distended or exhausted vessels. Again, the morbid products of secretion may require still further local stimulation to secure their removal; they may require the energetic and sustained employment of the counter-irritant treatment. There are cases, however, in which all these means may fail in procuring the absorption of a morbid product; the mass may become organized, and assume more or less of the character of the adjoining tissue, or it may constitute a non-analogous tissue. But in employing stimulants locally, for the purpose of dissipating the induration caused by the exudation of fibro-albuminous matter, great caution is necessary; there may still be an afflux of blood to the part: then the antiphlogistic method should be employed. There are other cases, where the quantity of blood directed upon the part, as well as its general vitality, is lessened: these are the cases for the use of the revulsive

methods of treatment: this precept is not simply the result of theory; the theory justifies a practice which has no doubt been much abused, but has also been, unquestionably, very successful. Bear in mind, therefore, that much prudence is necessary in the use of this method; never lose sight of the circumstance, that though it may restore an indurated tissue to a healthy condition, it may also increase the irritation. By the side of those rational methods of treating induration, another and empirical one may be placed. We should endeavour to discover some substances which, mixed with the blood, would exercise a discutient power. Mercury will often cause the absorption of exostoses; mercury and iodine seem now and then to exercise similar power over induration seated in the soft parts.

LECTURES

ON

THE PHYSIOLOGY OF THE STOMACH,

Being the Gulstonian Lectures for 1839;

delivered at the Royal College of Physicians in London,

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Lecture I.

The process of digestion is not only, of all the animal functions, the most widely spread in the scale of animals, but it is likewise the most complicated in the higher classes: so much so, that the full consideration of any one of the sub-processes of which the function consists would afford ample scope for physiological inquiry and research. There is one part of this process, however, which is constant in its existence, from the most simple creature up to that which possesses the most elaborate digestive apparatus. I allude to that peculiar reduction of the food which takes place in the stomach of the higher animals, and which is obviously the result of a duration, for a certain period, of the alimentary substances in that cavity. This part of the process, commonly called chymification, or which may be properly denominated "stomach digestion," occurs in all animals in whom a true digestive function exists — that is to say, in whom the food undergoes a certain elaboration within the interior of the body, before it can be applied to the purposes of supplying the waste of the solids and fluids.

Let us take, for example, an animal at the bottom of the scale—the fresh-water polype, *Hydra viridis*. This creature, so perfectly simple in its structure, without any distinction of parts—its entire body consisting merely of a sac with a single orifice, which serves both as inlet and outlet —not only has a wonderful power of seizing with its tentacles the bodies of animals more highly organized than itself, and of introducing them into the interior of the cavity into which its body is hollowed, but the interior of that cavity exerts a destructive influence upon the substances contained in it; so that when these substances are again expelled through the same orifice, they have lost their form: they appear dissolved upon the surface, to a greater or less depth, and cannot be recognized as the same substances which found their way into the interior of the creature. According to Trembley—the discoverer and historian of this interesting class—animals introduced alive into the interior of a polype, always die within a quarter of an hour. The food thus swallowed distends the little body of the polype, so that the walls of its cavity or stomach, as it may be called, are rendered sufficiently transparent to enable the observer to watch the process as it goes on within. At first, Trembley tells us, the animals can be distinctly seen unaltered in the body of the polype, but after a time, we find that they gradually lose their form, until at length they become so altered as to be no longer recognizable: they become reduced, as he says, to a "*bouillie*," which contains fragments of various sizes, of the more solid parts of the animals, which have been but slightly or not at all acted upon. The greatest part of this *débris* is subsequently expelled from the body of the animal, through the same opening as that by which the food was introduced; nothing remaining but a fluid which may be supposed to consist partly of the dissolved nutritious materials, to be appropriated to the nourishment of the animal, and partly of some yet remaining excrementitious matter, the expulsion of which, from its small quantity and fluid nature, Trembley says, is not easily observed.

Such is a brief account of the digestive process in these very simple creatures, and it will serve to illustrate the essential part of the process in all higher animals. If the function experiences any degree of complication in other classes, that complication results from the addition of other accessory processes, either previous or subsequent to the solution of the food in the stomach: thus, while we observe the greatest variations in the mode of prehension of the food—its mastication, the de-

gree to which it is mixed with fluids or macerated, before its introduction into the cavity, and the extent of surface with which it is brought into contact after it has, in a very altered form, left that cavity, and previous to the expulsion of the excrementitious part—we nevertheless find, that in every instance the presence of a cavity into which the aliment is very early introduced, and in which it, after a longer or shorter time, becomes completely disintegrated, is a never-failing characteristic of the process of digestion. This fact, which is abundantly proved by the comparative anatomy of the alimentary canal, would alone invest the process of chymification or stomach digestion with the highest degree of importance in a physiological point of view; but when we take into account that in man and those higher animals in whom we can observe the process, the whole system sympathizes, in the most marked manner, with this particular function—that while the food is being thus acted upon in the stomach, most of the other functions are in a state of excitement; the circulation and respiration are accelerated, and a general febrile state is induced, which continues, with more or less of intensity, till the process is completed; I say, when we take into consideration the influence which this process exerts upon the other great functions of the body, it must be obvious that the physiology of stomach digestion ought to afford an interesting and important subject of inquiry to the practical physician, as well as to the physiologist. If this process, in its normal state, gives rise to so much constitutional disturbance, how much greater disturbance will there be should any thing interfere with or impede the healthy and natural performance of it? How necessary, then, is it that the physician should be well acquainted with all those conditions which favour the process, as well as those which retard it; and how important that his knowledge of the function should provide him with expedients to which he can have recourse when necessary!

I propose, then, to consider in the present and two following lectures—the physiology of the stomach. I shall, first, examine the anatomical characters of that organ in the vertebrated classes, and more particularly in the human subject; secondly, I shall describe the minute structure of its internal membrane; and lastly, I shall endeavour to lay before you the present state of our knowledge respecting the nature and essence of the function of the stomach.

Physiologically considered, the stomach presents a perfect uniformity as regards its general anatomical characters, in all the vertebrata. It may be defined to be a sac, provided with an external muscular investment, and lined by a mucous membrane, from which, under certain circumstances, a secretion is copiously poured out of decided chemical properties, affording an acid reaction, and, when kept at a certain temperature, capable of exerting a solvent power on alimentary substances. But the limits of the stomach, as that term is applied in the language of the anatomist, are by no means so precise. Speaking anatomically, we consider the stomach to be a bag, either simple or divided into several chambers or cavities, situated at the commencement of the digestive canal, and in which the food is deposited immediately after it has been swallowed, either for maceration or for solution. And in every case we shall find a distinct line of demarcation existing between the physiological and the anatomical stomach, although in some instances they may both form one and the same bag.

The human stomach may be taken as an example of the simplest condition of this organ; it must be regarded as entirely, or almost so, a physiological stomach; for it answers completely to the definition I have already given. It is a simple cavity, and seems to result from a dilatation of one wall of the œsophagus. Its formation may be accounted for in this way: the œsophagus, immediately it has passed through the diaphragm, turns abruptly to the right side, inclining a little downwards; but its left wall bulges out considerably towards the spleen, forming the great cul-de-sac, the great curvature, and the lesser cul-de-sac, before it again falls into its original relation to the right wall, and restores the primitive cylindrical form of the alimentary tube. The dotted line in this figure will serve to illustrate the description of the mode of formation of the stomach:—

The human stomach has the shape of a cone, the basis of which corresponds to the left or splenic extremity, whence it gradually tapers to the pyloric extremity, which forms the apex of the cone. The orifice of communication with the œsophagus (*the cardiac orifice*) is situated at the line of junction of the left and middle thirds of the stomach, that portion which lies to the left of this orifice forming what is called the *great cul-de-sac*, a part whose development is of considerable physiological importance. In the adult stomach this part has reached its maximum of development; but at the earlier periods of extra-uterine life it is scarcely at all developed; and even in the infant at birth, and during childhood, this portion is of comparatively very small size; so that, in the latter case, the œsophagus is inserted near the left extremity of the stomach, and the whole of this organ has a more decidedly conical form than at the adult period. Schultze has particularly pointed out this difference of shape in the human stomach at these two periods, as serving to account for the comparative facility with which the act of vomiting is accomplished at the former period. In common with others of the abdominal organs, this viscus acquires a serous investment from the peritoneum, which, however, is so loosely applied to it opposite the curvatures, as to leave a space in each of those situations in which run the arteries that supply the stomach with blood. It is likewise invested by a muscular coat, composed, like the muscular tunic of the whole intestinal canal, of two planes of fibres—an external one, consisting partly of longitudinal, partly of oblique fibres; and an internal one, formed of circular fibres. The muscular coat is principally developed upon the right third of the stomach, or that segment of it which anatomists designate the pyloric portion; and the circular fibres acquire their maximum of development around the pyloric orifice, to which they perform the office of a sphincter. But it is from the internal membrane that we can form the most correct judgment of the physiological character of the organ: this membrane belongs to the class of mucous membranes; it is soft, thick, highly vascular, and in the natural state always moistened upon its surface by a more or less thick layer of mucus, which may be readily washed off by a stream of water directed upon it, or scraped off with the back of a scalpel. This membrane differs very obviously from the mucous membrane of the œsophagus, not only in its softer texture and more pinkish hue, but likewise in the absence of any epithelium upon it visible to the naked eye. Although I shall presently show, when I come to speak of the minute anatomy of this membrane, that it is not devoid of epithelium, yet the epithelium of the œsophagus may be said to cease abruptly at the confines of the cardia, its termination being indicated by a jagged margin, which extends round the whole circumference of the orifice. I have satisfied myself that this thick epithelium of the œsophagus does not extend into the stomach in the human subject, and therefore the line of its cessation may be regarded as that whence the stomach may be said to commence. The non-existence of an epithelium obvious to the naked eye is the distinctive character of the physiological stomach; and, on the other hand, the presence of a thick epithelium indicates a different office from that which must be admitted to belong to the physiological stomach.

It is not uninteresting to notice, that the human stomach sometimes presents a constriction corresponding to the line of union of its middle and pyloric third, thus giving rise to more or less of an hour-glass appearance in the viscus. It is along this line, it will be remembered, that the muscular tunic belonging to the pylorie portion of the stomach acquires an increase of thickness; and the constriction is in some cases owing to a temporary contraction of the band of fibres covering that portion, when it will, of course, disappear after death under the influence of any distending force; or, at other times, it is occasioned by some permanent and probably congenital contraction: in such cases the constriction cannot be removed by distension of the stomach with air or liquids, and it will remain even after the stomach, when distended with air, has been dried. The theory of Sir Everard Home, that this division into two portions by a constriction is a regular and normal result of the part which the stomach plays in digestion, is devoid of foundation, and has been contradicted by the experience of every observer since his time; and still less grounds are there for his supposition that the cardiac and pyloric portions performed separate and distinct offices. The truth is, that to find during digestion a constriction in the stomach of an animal in which such constriction does not naturally exist, is the exception and not the rule; and that even when the constriction does occur, it in no degree interferes with the free passage which exists between the two portions.

Although this subdivision into two distinct portions is not naturally manifest in the human stomach, it is remarkable that, in the gradual departure which we observe among mammalia from the simple physiologieal stomach, such as the human stomach is, we shall find a progressive

advance towards the complete separation of the viscus into a right or pyloric portion, which always retains the characters of the physiological stomach, and a left or cardiac portion, which, as it becomes more completely separated, performs more exactly the office of a simple receiving and macerating cavity.

The first step in this change consists in the extension of the œsophageal epithelium into the cavity of the stomach, so as to cover a portion of its mucous membrane for a little way beyond the cardiac orifice. In the purely carnivorous stomachs this is the case, as in those of the cats and dogs. Although the epithelium passes into the stomach, and thus encroaches upon the secreting membrane, it does so to a very slight degree, and therefore the stomachs of the carnivora differ in no essential character from the human. In external form they are more simple, inasmuch as the great cul-de-sac is less developed. In the hog tribe another stage is passed over in the further continuation of the epithelium into the cardiac portion, although still for a very short distance: here, however, the stomach is divided by a slight but permanent constriction, leaving two-thirds to the cardiac portion, and one-third to the pyloric. The former, however, it is evident, from its being but to a very small extent lined with epithelium, still retains in great part the physiological character. In the pecari and the hippopotamus there are two blind pouches from the cardiac portion. In the Solipeds—the horse, ass, &c.—there is not only a slight constriction visible externally, and corresponding to the limits of the cardiac and pyloric portions, but the whole of the cardiac portion is lined by the prolonged œsophageal epithelium, so that on laying open the cavity of the stomach the two portions are at once distinguished by the difference in the character of their lining membranes. In the horse it is well known that the botts or larvæ of the Œstrus bovis of Linnæus, are developed in this part of the stomach. The insect lays its eggs in the shoulders and forelegs of the horse, whence the larvæ when hatched can be licked off and swallowed. They are found during spring in great numbers, adhering by little hooks at the anterior extremities of their bodies to the internal membrane of the stomach, from which they cannot be detached by force, without tearing off a portion of the epithelium with them. The cardiac portion, then, of the horse's stomach must be regarded as merely a macerating cavity; the physiological stomach being that portion which is situated to the right of the constriction, and belongs to the pylorus. The stomach of Rodentia, as the rabbit, the rat, resembles considerably that of the Solipeds: like the latter, it is divided by a constriction visible externally into a cardiac and a pylorie portion, and the former is lined by epithelium: the cardiac portion in many is of considerable size, and in some genera experiences a subdivision by another constriction into two portions. The beaver, in this order of mammalia, presents the remarkable peculiarity of the addition of a special glandular apparatus to the cardiac portion, situated immediately to the right of the opening of the œsophagus, composed, according to Sir Everard Home, of a series of branched follieles, which pour their secretion into the gastrie cavity. These follicles are collected into three rows, situated between the muscular and mucous coats, upon the latter of which they open by large and patulous orifiees. A similar arrangement exists in the stomach of the wombat (Phascolomys-didelphis ursina, *Shaw*,) an animal from New Holland, one of the Marsupiata, which resembles the beaver in other characters likewise; and in an animal indigenous to this country, the dormouse (Myoxus avellanarius), a glandular apparatus of the same kind is found, but somewhat differently placed. In this animal the glandular apparatus is situated in a dilated portion of the œsophagus, just before it enters the stomach: in structure, however, it precisely resembles those described in the beaver and wombat. These glands, as it appears to me, result from a higher degree of development of a structure which exists in a simple condition in, I believe, all mammalia, certainly in man, and the higher quadrupeds which more commonly come under anatomical examination. They belong to the œsophagus more than to the stomach, and do not in general extend into the stomach unless the œsophageal epithelium does. In such cases, therefore, they would be limited to the cardiac portion, and are generally found most numerous along the upper curvature, or to the right of the œsophagus. The great development of these glands in the three animals I have mentioned appears to have reference to the arid nature of their food, which consists of the bark of trees, hazelnuts, corn, fallen acorns, &c., and which probably requires to be moistened to a greater degree than could be effected by the more simple glandular apparatus of the stomach. But whether the chemical constitution of the secretion differs in any way from that of the ordinary mucous fluids poured out upon the surface of the œsophagus, I have not had any means of ascertaining.

So far as we have proceeded in our examination it is manifest that the subdivi-

Fig. 1.

sion of the stomach, anatomically considered, becomes progressively more complete, into a cardiac portion and a pyloric portion, the latter of which, from the absence of an epithelium manifest to the naked eye, as well as from the characters of its membrane, of which I shall presently speak more fully, is always concerned in the true physiological action of the stomach. In all these instances which I have mentioned, so free is the communication between the cardiac and pyloric portions, that the stomach may still be said to consist of but a single cavity, although the two portions are physiologically as distinct as if they were separated by a perfect septum.

The Cetacea and Ruminantia are those orders of mammalia which possess the stomach in its most complicated condition. In the latter of these orders, the ruminants, the cardiac portion undergoes subdivision by means of constrictions, which give rise to the projection of more or less perfect septa into its interior, by which the various compartments are separated from each other; but as these septa are never complete, a communication always exists between the several compartments with each other. In the Cetacea, however, on the other hand, the multiplication of compartments seems to be connected chiefly with the pyloric portion, or true physiological stomach, as far as we can judge from our present imperfect data. In the porpoise we find, according to the description of Hunter, five separate compartments, of which only one, the first, communicates immediately with the œsophagus, and is directly continuous with it. This is a large bag, constituting the splenic end of the stomach (*a*, fig. 1), and therefore corresponding to the cardiac portion; its mucous membrane is lined throughout by the continuation of the œsophageal epithelium. The second compartment (*b*, fig. 1), situate to the

right of the first, communicates with it, but not with the œsophagus. The orifice of communication between the first two stomachs is surrounded by a number of large irregular projections, which seem calculated to impede, if not to prevent, the passage of substances, save only such as are of small size. From the fact that the epithelium is not continued beyond the confines of the first stomach, and from the account which has been given by Sir David Brewster of his microscopic examination of the lining membrane (the only one, so far as I know, which has yet been made), I am led to believe that the second stomach is a true physiological one, and that its mucous membrane is capable of pouring out the characteristic secretion. And the same office would seem to be that of the third and fourth stomachs, the former of which, as described by Hunter, is the smallest of all its compartments, and seems to be a sort of offset from the second, and, in my judgment, may more properly be considered a part of the second; it is not visible externally. The fourth stomach (*c*, fig. 1) is much elongated, and has acquired the cylindrical or intestine-like form. It terminates in a dilated oval cavity (*d*, fig. 1) which Mr. Hunter describes as the fifth stomach, but which his able commentator, Professor Owen, regards as the dilated duodenum, since the gall-ducts terminate in it.

Mr. Hunter considered the second stomach of the porpoise to be its true digesting cavity; and Sir Everard Home thought that the fourth stomach performed that function. Until a more complete examination has been made by competent persons of the structure of the mucous membrane by the microscope, we can arrive at no positive conclusion respecting the functions of these compartments; but I feel strongly disposed to believe, from the cessation of the œsophageal epithelium at the commencement of the second stomach, and from the position of the second, third, and fourth stomachs being on the pylorie side of the first, that all three will be found to be true digestive cavities.

If this opinion be confirmed, a step will have been made towards the solution of what has long been considered an anomaly —namely, that the predaceous and carnivorous Cetacea, such as the porpoise, the common dolphin, the hyperoodon, should possess stomachs of so much complexity. In general, the variations in the complications of the stomach would appear to be influenced by the nature of the food; and those animals whose food is most difficult of assimilation, extensive vegetable feeders especially, have the most complicated stomachs—the complication arising not so much from an increase in the true digesting surface, as from the enlargement of the simple recipient and macerating cavities. The purely carnivorous animal, on the other hand, has a simple stomach, which is wholly a physiological one—wholly a true digesting surface. The reverse is the case with the zoophagous cetacean; his stomach is extremely complicated, and contains, undoubtedly, a macerating cavity; so that even if we can succeed in proving that the last three cavities are true digesting stomachs (fig. 1), the anomaly would not be completely removed, for it may still be asked why should a carnivorous whale require a greater extent of digestive surface, and the super-addition of a macerating cavity, when the simplest form of true stomach is sufficient for the lion or the tiger? But the difficulty is increased by referring to the stomach of the herbivorous cetaceans; the dugong, for example. The stomach resembles that of the pecari or hippopotamus, which differs from the stomach of the hog only in the addition of a couple of cœcal pouches to it.

[Since this lecture was delivered I have had the oportunity of carefully examining the stomach of a porpoise, which was brought to King's College in the summer, with reference to determining the function of each of its cavities. The result of my examination has been completely confirmatory of the opinion stated in the lecture, namely, that not only the second and fourth stomachs afford true digestive surfaces, as surmised by Hunter and Home, but the third stomach likewise. I found on the mucous membrane of each of these cavities microscopic characters, which will be detailed in a subsequent lecture, abundantly sufficient not only to prove the membrane to have the mechanism for secretion, but to establish the exact similarity of its structure with that of the mucous membrane of the carnivorous stomach. The dilated oval cavity, which Hunter describes as the fifth stomach, but which Owen regards as the duodenum, I am led by this examination to consider a portion of the stomach; the structure of its mucous membrane closely resembles that of the second stomach, which all physiologists are agreed in regarding as a true digestive cavity.]

ON SIPHILIS.

By Herbert Mayo, F.R.S.

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[Continued from page 247.]

[*For the London Medical Gazette.*]

Treatment of chancre—non-mercurial plan—Reasons for the use of mercury — Directions for a mercurial course — Accidents of a mercurial course — Difficulty of affecting the system—Dysentery—Hydrargyria—Ptyalism — Mercurial phagedæna—Excitement of the nervous system—Erethismus.

So much space having been occupied in the attempt to arrive at the diagnosis of chancre, I have next to consider its treatment.

The first element in the inquiry is the important fact, determined by the observations of the army surgeons of this country, that every form of venereal disease may be cured without mercury. I have attributed to the late Mr. Rose the principal part in establishing this conclusion. His attention appears to have been drawn towards it by observing the practice pursued by the natives of Portugal in treating siphilis. He had opportunities of ascertaining that several of them, after sores which he had supposed to be venereal, had been cured without mercury, continued in perfect health during a period of two or three years. A few similar instances came under his observation among our own soldiers, when it happened that the use of mercury was interrupted at early periods by the movements of the army, or other causes. "I had often wondered," Mr. Rose continues, "that in not one of these any ill effects ensued; but I could only infer that my opinion of the disease had been erroneous, although, in the cases to which I allude, it had been by no means hastily formed, and the sores had every characteristic of true chancres." Reflection upon these facts, and parallel instances that were communicated to him, led Mr. Rose to determine to make a sufficient trial of the non-mercurial treatment. Accordingly this plan was pursued in all cases of primary venereal sores, as well as in the constitutional symptoms to which they gave rise, that occurred in a battalion of the Coldstream, consisting of a thousand men, stationed in London, during a period of a year and three-quarters. The result was their uniform recovery, although it was certain from the number affected and so treated, and from the appearance of many of the primary and secondary disorders, that a proportion of these cases must have been true siphilis. It further appeared that secondary diseases by no means constantly followed those sores even which presented the least questionable evidence of a siphilitic origin; and that the constitutional symptoms when they manifested themselves, did not bear a more severe or inveterate character than after the use of mercury.

One important practical inference is immediately deducible from the facts thus verified. The administration of mercury for siphilis may be confidently abandoned in all cases in which, from individual or hereditary peculiarity, its use is likely to injure the constitution, or in which, in former or present experience, it has proved prejudicial, or in which a reasonable doubt may exist as to the nature of the affection under treatment. We may pause upon this point, and, postponing for the moment the consideration of the use of mercury in siphilis, first inquire what may be done without it — by what other means the disease may be treated—in what other way the primary local affection may be speedily cured—and by what other means the chance of secondary affections of the system may be lessened?

In the first place, there is every reason to believe that when a chancre is in its earliest stage, that is to say, while it is yet a vesicle or pustule, or the vesicle or pustule is but recently broken, and the ulcer is small and has little or no induration round it, the disease may be extirpated at once by destroying the surface of the ulcer with nitrate of silver. It is therefore prudent, when, after risk of infection, a vesicle or small broken surface is seen, thus to treat it. One practical use of M. Ricord's experiments is to confirm the propriety of this practice. If the artificial chancre is touched with nitrate of silver within three or four days from the commencement of the vesicle, the slough produced is always followed by immediate healing. If the application of the caustic is delayed two or three

days longer, it proves ineffectual; and when the eschar separates, there is but a larger ulcer of the character of that which preceded it. I have observed the same effects in ulcers of infection at the corresponding stages; and I perfectly believe that a chancre, taken at the earliest period, and thus destroyed, will not infect the system.

In the second place, if the sore, upon the separation of the eschar, presents again the character of chancre, or if the sore, when first seen by a surgeon, has already made some progress, no accidental inflammation being present, the treatment by lunar caustic may still be adopted or be persevered in. Such is M. Ricord's general practice: he continues to apply the nitrate of silver till the ulcer granulates, dressing the sore with lint, wet with a stimulating tincture; to which, if it produce pain, opium is added. Supposing, however, local inflammation to be present, this treatment would be inadmissible. Lint wetted with a saturnine and opiate lotion, or with the black wash, or water, or a bread poultice, would then be proper local applications. As general means, the body should be kept cool by low diet and occasional aperients, and the patient should abstain from exercise. If plethoric, he had better lose blood. The latter rules, however, are given as belonging to the non-mercurial treatment, when used indiscriminately. When that is resorted to, upon reference to individual peculiarity of constitution, these rules may likewise have to be modified for the same reason.

In the limited number of cases in which alone I am now arguing for the non-mercurial treatment, it is a question of little importance whether the ulcer heal something slower or as fast as if mercury had been employed. This question, abstractedly, is one upon which considerable difference of opinion prevails among the experienced army surgeons, to whose observations the profession is so much indebted for evidence we could have obtained from no other source. Dr. Thompson observes, that "under an antiphlogistic regimen, rest in the horizontal posture, and mild local applications, chancre and bubo have in every instance disappeared as speedily as he had ever seen them disappear in similar cases, where mercury had been employed." He mentions, in continuation, that Mr. Hicks had found the same result of the non-mercurial treatment in the men affected with siphilis of the 95th regiment, of whom he had the charge. On the contrary side, Mr. Guthrie gives, as the result of his own observations, jointly with those of Mr. Dease, Dr. Arthur, and Dr. Gordon, what I am induced to think more likely to be the general result of non-mercurial treatment on primary sores. "With us," Mr. Guthrie observes, "where the ulcer had the characteristic appearances of chancre, dry lint alone was generally applied to it; where these signs were less prominent, a variety of applications were used; but there were a great number of sores, both raised and excavated, on which no application made the least favourable impression for many weeks. They did, however, yield at last to simple means, after remaining for a considerable time nearly in the same state, several of them having become sores of a large size previous to or in the first days after their admission. If they were ulcers without very marked appearance, and did not amend in the first fortnight or three weeks, they generally remained for five or seven weeks longer; and the only difference in this respect, between them and the raised ulcer of the prepuce, was, that this often remained for a longer period, and that ulcers presenting the true characters of chancre, required, in general, a still longer period for their cure—that is, from six, eight, to ten, twenty, and even in one case twenty-six weeks, healing up and ulcerating again on a hardened base."

The concurrent testimony of Mr. Rose's cases, and of Mr. Bacot, go to the same conclusion. It is strongly confirmatory of its correctness, that M. Ricord, an habitual non-mercurialist, speaks of the same form of chancre which Mr. Guthrie found thus tedious without mercury—the indurated, namely — as proving, in his own practice, equally refractory, unless he deviates from his usual method, and resorts to the specific. "Whatever may be the cause," he observes, "if it be certain that a well-directed local treatment leads very often to a complete cure of indurated chancres, *yet the cure so obtained is most commonly slow, and is liable to be imperfect.* The difficulty of thoroughly healing the indurated

chancre by ordinary means, and the good effect of mercurials in its treatment, have been the principal reasons," M. Ricord continues, "which have caused this variety to be considered as the exclusive type of primary siphilis, and mercury to be its sole specific."

The importance of the occasional use of mercury in the treatment of the primary symptoms of siphilis is thus forced upon us, when we set aside the consideration of its agency in preventing the entrance of the disease into the system. We have now to give attention to the latter question, the solution of which is again to be sought in the mass of evidence collected by the diligence of the army surgeons. Not, however, to run into too great length, I shall confine myself to quoting the results of the analysis given in Mr. Bacot's Treatise on Siphilis, of the entire evidence collected. Mr. Bacot represents the conclusions to be drawn from these sources to be the following :—

"1st. That all sores of the genitals, without exception, are curable without mercury. 2dly. That *secondary symptoms occur in the proportion of at least one in ten in those cases where no mercury is used, whilst, on the contrary, the proportion of such cases is only as one to seventy-five where that remedy has been employed.* 3dly. The possibility of curing nearly all the forms of the secondary siphilitic symptoms without the assistance of a particle of mercury. 4thly. The mildness of these symptoms, which, excepting in about half a dozen instances, were confined to eruptions on the skin, and ulcers of the throat. 5thly. That the period required for the cure of the primary sores by the non-mercurial treatment was not, in general, greater than where mercury was employed; though it is admitted that the cicatrices of the sores remain frequently in a state of disease after ulcerating again, and that the secondary symptoms, when not violent, are very tedious; and when apparently cured, would not unfrequently recur again and again."

If this analysis of the evidence collected is tolerably correct, it leaves no doubt as to the general preferableness of the mercurial to the non-mercurial treatment, upon the ground of greater security. Yet there is one feature in the preceding summary which is in favour of the latter, and which is quite of importance enough to deserve examination; I allude to the alleged mildness of the secondary disease, where mercury is not given. Upon this point it appears to me that there is probably a fallacy. There are no sufficient reasons for believing that the judicious use of mercury tends to aggravate siphilis. The alleged mildness of the secondary symptoms, when mercury has not been given, has most likely arisen from the cases with which they are contrasted having been cases where mercury has been administered more by routine than with discrimination, and therefore often in excess. It is in the same manner that I am persuaded that Dr. Fricke, of Hamburg, one of the ablest advocates of the non-mercurial treatment, has suffered himself to be deceived. We read in Professor Graves's instructive lectures, as a point of unfavourable contrast to the mercurial treatment, that the venereal wards, under Dr. Fricke's non-mercurial treatment, are now fresh and properly ventilated, and that the patients leave them with healthy looks; whereas formerly the foul smell of the wards could not be removed, nor the rooms nor beds kept clean, and "the air was tainted with the offensive odour of salivation and siphilitic caries." One does not wonder that, of the two alternatives, Dr. Fricke should prefer the former; but there is a mean between the two which may be preferable to either, namely, the employment of mercury, with the avoidance of the evils that often but not necessarily have gone with it.

Every observant hospital surgeon in London must have seen enough in his own practice to convince him of the efficacy of mercury in lessening the frequency of secondary lues. In the considerable number of patients who apply at the Middlesex Hospital with secondary symptoms, I find on questioning them that by far the majority have taken such courses of mercury as are considered by no one capable of extinguishing the disease. Occasionally, too, one has the opportunity of seeing protracted cases of primary disease, where the patient has been late in applying for relief, and where the secondary symptoms break out early, and with a rapidity and virulence, which, one is confident from the experience of

other cases, would not have happened had a mercurial course been commenced in proper time.

Thus, finally, are we led to conside mercury of an importance in the cure of siphilis, which rationally accounts for the strength and duration of the belief that it was a specific for the disease. What strikes one, in looking back to the history both of the disease and the remedy, from the time of Hunter to the present, is the following progress of men's opinions about them. The recognition, first, of the most decided characters of siphilis, and the adhesion to the belief that mercury is its specific remedy. Secondly, the observation of many cases which got well without mercury, or the course of which was very unequally influenced or even aggravated by mercury, and the impression that these were not true siphilitic disease. Thirdly, the multiplication of similar cases, as practitioners became bolder in relinquishing the use of mercury, and the establishment of some and the supposed establishment of other particular forms of venereal disease, to the treatment of which mercury was not applicable. Fourthly, the rejection of mercury altogether in all cases of venereal disease, and the proof that every case might be cured without it. Fifthly, the determination that mercury is nevertheless of use both in healing primary sores and in preventing constitutional lues; coupled with an uncertainty as to the exact cases where mercury is indispensable, and a constant doubt as to the quantity in which it should be used. This is our state at the present moment; and the error into which we are most likely to fall is, not the total abandonment of mercury, for no surgeon but will soon be driven from this practice by the fierce and early accession of secondary symptoms, which he will sometimes witness from its omission, but its indiscriminate use, and that, again, in excess.

The practical rules for the management of a mercurial course are few and simple. It should be commenced as soon as the character of the disease is determined. It is probable that the delay even of a few days materially lessens its efficacy towards preventing constitutional lues. For the same reason mercury should be given at once in a quantity, and in a manner, calculated to affect the system as speedily as is consistent with keeping clear of its injurious agencies.

Now if a surgeon wishes to affect the system promptly with mercury in any other complaint, the usual prescription is two to three grains of calomel, with half a grain of opium, every eight or six hours. This is, therefore, in general, the best method in the present instance.

The administration of mercury in this quantity is to be carefully watched, and the dose is to be lessened as soon as its effects distinctly manifest themselves. These, where mercury agrees (which cases alone are at present under consideration), are an unpleasant coppery taste in the mouth, and a swollen and tender condition of the gums. In the most favourable cases no further sensible effects should be produced by the mercurial course. The condition of the fauces which has been described, and which is the measure of the due extent of mercurial action, should be maintained as nearly as possible at the same point. For the rest of the course, the quantity of from five to ten grains of blue pill daily, is commonly fully sufficient to secure the end proposed.

The duration of a mercurial course should be from five to six weeks. This is in part determined by the alterations of the sore. If the sore early loses its specific character, and begins to shew a disposition to healthy granulation, and the hardness has at the same time disappeared, then the shorter period specified may be enough. Here, however, we but feel our way blindly, and want more light and certainty. The knowledge which we want can only be obtained through the means of observation possessed by army surgeons; they alone have the opportunity of keeping under observation a sufficient number for a sufficient length of time to ascertain the eventual success of any plan of treatment. It is to be hoped that, in the same spirit of exact observation which has been already displayed, we may before long have determined for us by positive experiment, the shortest period and smallest quantity of constitutional effect necessary to give a mercurial course full efficiency.

In conjunction with mercurial treatment, the local treatment should be the simplest. Lint wetted with water, or

with a saturnine and opiate lotion, or the black wash, should alone be employed. But sometimes, when the hardness of the sore is gone, and its surface remains stationary, it is of use to touch it with nitrate of silver, to destroy the indolent edge, and stimulate action.

The diet should be plain; acids, and fruit, and green vegetables, and beer, being shunned. The patient's apartment should be well ventilated, and at a moderate temperature. Mercury renders a person more susceptible of cold; but, on the other hand, heat increases its naturally lowering tendency: so wine often becomes a useful medicine towards the close of a mercurial course. At the commencement of a mercurial course the patient had better not leave his room; exercise endangers the supervention of inflammation, and of the accidents of siphilis presently to be noticed. The bowels, again, should not be in a costive state either just before commencing mercury, or during the course. This is to be prevented by aperient medicine. Afterwards, going out daily is objectionable on these grounds alone:—the risk of irritating the part, or of incurring some of the consequences which exposure to cold, and still more readily exposure to cold and damp, produce. These risks being guarded against, the patient need not confine himself within doors. But it is to be observed that mercury does not act so quickly or so powerfully, when the patient is daily and freely exposed to the air, as when he stays in the house.

We may now proceed to the consideration of the various circumstances through which a mercurial course may be rendered either inefficient and nugatory, or in addition dangerous—the accidents of a mercurial course.

It may be well to premise, that some are so sensitive to mercury, that the first dose of the remedy will bring on more or less of several of the effects that are presently to be described; that their invasion, where every thing seems going on well, is often sudden and violent; and that the administration of mercury cannot, therefore, be watched with too much caution.

There are others whose constitutions seem hardly to admit of being affected by mercury. In these cases, confinement to a warm apartment, the use of the warm bath, and bleeding even, when not contra-indicated by other circumstances, may be employed with advantage. The preparation, again, of mercury may be changed, the Plummer's pill, or corrosive sublimate, may be given in place of calomel alone or blue pill, or the remedy may be applied externally, and introduced through the skin.

Corrosive sublimate may be administered in the dose of an eighth to a sixth of a grain, made into a pill with bread, three times a day. It is best to give it with food, which protects the stomach from its direct agency. For mercurial frictions, a drachm of the strong mercurial ointment may be daily rubbed into the arms and thighs and legs. There are are some whose systems can only be affected by a combination of the two methods, and with whom mercury then produces its common and proper effects. But its use is not to be blindly pressed in every case of this sort, in the expectation of certainly attaining the desired end by perseverance: because, in the first place, any of the injurious effects presently to be noticed may suddenly supervene, the system becoming at last rapidly saturated; and, in the next place, it may be made evident by other than the usual signs that the mineral is acting upon the constitution. The patient may be paler, a little thinner, his pulse more frequent; he may be depressed and irritable; he may sweat profusely at night: the sore at the same time may improve. But whether the latter effect take place or not, the attempt to produce any further sensible impression upon the system in such a case should be abandoned, and the quantity of mercury administered should be much lessened.

The most frequent accident that disturbs a mercurial course is the supervention of diarrhœa, quickly running into dysentery. Such an attack begins with loose stools, followed by watery evacuations and griping, and leads to discharge of mucus and blood, with pain and tenesmus. Attacks of this nature are liable to be brought on by imprudence in diet, or exposure to cold, or arise from the dose of mercury not being guarded by a sufficient dose of opium. The diarrhœa may be checked by astringents combined with cordials and opium, and the dysentery by the same, joined with enemata of mucilage of starch and laudanum; but it is necessary, besides, to desist for two or three days from the further exhibition of

mercury. Some have bowels so irritable, that the dysentery returns as soon as mercury is resumed; in such cases recourse again must be had to the endermic method.

In some an eruption upon the skin is produced by mercury, which is called hydrargyria, or eczema mercuriale. It is shewn by large red patches, which, on close inspection, are covered with minute vesicles, and are attended with heat, and itching, and irritation, not unlike that of nettle-rash. Sometimes considerable fever is present, and sore throat, and redness of the conjunctivæ. The eruption commonly appears on the belly and thighs, but it is liable to invade other parts in succession. The vesicles breaking, a slight and partial incrustation, with considerable soreness, follows. Cooling medicines in the first instance, with the omission of mercury; and, in the second, the application of simple ointments to the sore surfaces, or dusting them with hair powder, or lapis calaminaris, and bathing with a saturnine lotion, or a weak solution of sulphate of zinc, are appropriate remedies. Sometimes the eruption becomes in part pustular, and the fever runs higher, and assumes a dangerous typhoid character.

A most troublesome accident is the supervention of ptyalism, with inflammatory swelling of the face and tongue, severe face-ache, and ulcers of the fauces, with aggravated fœtor of the breath; this distressing state of things may supervene very suddenly upon the administration of too much mercury. The means to get rid of the superfluous mercurial action consist in good ventilation of the patient's apartment, saline aperients, and an astringent gargle for the mouth. A weak solution of chloride of lime forms a useful wash to correct the fœtor, when it does not prove too irritating.

Sometimes the excess of mercurial action spends itself upon the throat alone, which inflames and ulcerates; the soft palate and tonsils appearing of a deep red colour, with small ulcers on the latter. Sometimes a deceptive appearance of ulceration is produced by aphthous-like patches on the tonsils, which are viscid secretion in the excretory orifices. If this disorder supervene towards the close of the mercurial course, it forms no sufficient reason for its interruption, but the quantity of mercury should be lessened.

Occasionally the irritation caused by mercury falls on the sore, which spreads, being with the parts around highly inflamed; this is mercurial phagedæna, which, if the course is not then suspended, and proper means of getting the mercury out of the system adopted, may go on to sloughing.

There are few in whom the nervous system is not more or less affected by a course of mercury. With a small number the effect is that of pleasant exhilaration and an unusual elasticity of spirits. With most, it consists in depression, and irritability of temper. With some, when mercury is given to excess, the imagination becomes excited, the thoughts hurried, and the mind, unable to stop or collect itself, is on the verge of temporary derangement. This I not long since witnessed in the case of a young gentleman, who, thinking that he was not affected speedily enough with mercury, had rubbed in nearly an ounce of ointment in the space of forty-eight hours.

But the most serious effects of mercury upon the system are those first described by Mr. Pearson, under the name of mercurial erethism. They consist in depression of the heart's action and of the nervous system, attended with irritability of the stomach. Mr. Pearson says, "Erethismus is characterized by great depression of strength, a sense of anxiety about the præcordia, frequent sighing, trembling, partial or universal; a small quick pulse, sometimes vomiting, a pale contracted countenance, a sense of cold." When the patient is in this state, any bodily exertion, whether sudden or otherwise, such as hastily rising from a chair or merely walking across the room, may cause immediate death: the patient faints, and does not recover from the syncope.

In one case which I witnessed, there was headache, faintness on exertion, a quick irregular pulse, paleness, nausea; in another, oppressive sense of faintness, particularly supervening at the instant of going to sleep, and attended with a feeling of suffocation. In a third, with less prostration, obstinate and protracted vomiting. In Dr. Bateman's case, described by himself, the symptoms were ushered in by violent and irregular action of the heart. The indications of treatment are, to give stimulants; of which, small doses of brandy and soda-water (laudanum being added if the

stomach or heart are very irritable) are the best—to expose the patient to the freshest air—to discontinue mercury—to prohibit all bodily exertion—to give light nutritious food, as soon as the stomach will digest it.

[To be continued.]

ON THE INFLUENCE

OF

MADDER ON THE BONES OF GROWING ANIMALS.

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(*For the London Medical Gazette.*)

The value of experiments made for the purpose of observing the growth of bones, and more remotely the general process of nutrition, by feeding growing animals on madder, has been, at different times, very differently estimated. They have been supposed by some to afford the only certain proof of a constant change of particles in nutrition, while by others they have been considered so vague and uncertain as to admit of no profitable application; and it would be easy to quote from the highest physiological authorities expressions of such doubt, with respect to the conclusions to be drawn from them, as would at once justify any attempt to explain their difficulties and apparent contradictions.

Herissant, who first distinctly explained the combination of animal and earthy matter in the bones, knew that it was only with the latter that the colouring matter of madder united; but it was Dr. Rutherford * who first, in his lectures, described the union as an evident example of chemical affinity operating in the living body, and showed its identity with the process, well-known to dyers, in which a soluble colouring matter unites with some insoluble substance, called a *mordent*, and thus becomes itself fixed in what is termed a *lake*. He therefore simply explained the reddening of the bones as the result of the union of the colouring matter of the madder absorbed into the blood with their phosphate of lime.

It was known that if the madder were given for some time to a young animal, its bones would be partially reddened, and that if the use of madder were then discontinued for some time, they would again become white. In accordance with the commonly received explanation of nutrition by a constant removal of old, and deposition of new particles, it was therefore supposed, that in the first change the redness arose from the deposition of reddened phosphate in the place of the colourless phosphate that existed previously; and that, in the second, the coloured phosphate was absorbed, and uncoloured phosphate deposited in its place. But Mr. Gibson*, in a paper which had for its object to prove the insufficiency of the madder experiments in their supposed application to the subject of nutrition, endeavoured to show that the return to whiteness of the bones, when madder is discontinued, might be explained otherwise than by supposing red particles of phosphate of lime to be removed, and white ones deposited in their places. He thought that if there were any substance in the blood which had a greater affinity for the colouring matter than phosphate of lime, it might abstract the colour from the bones, though the earthy matter remained longer fixed in them. He advanced the opinion, founded on an experiment, that the serum of the blood has such a greater affinity; and he therefore explained the processes of reddening and whitening, by supposing that the phosphate of lime of the bones does not become coloured till the serum has been saturated; and that after being coloured, it again becomes white, when the serum, having lost its condition of saturation, by the various secretions in which the colouring matter is separated from it, again exercises its superior affinity. It is, I believe, from Mr. Gibson's paper that much of the present uncertainty has arisen, and a correction of some of its errors will go far to establish the real value of experiments of this nature, at least in their applications to the growth of bones.

The chemical properties of madder,

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* R. Blake on the Teeth, Dublin, 1801.

* Memoirs of the Literary and Philosophical Society of Manchester, Vol. 8, (Ser. 2, v. 1,) p. 146.

on which its application in this physiological question depends, are briefly these: the fresh root* imparts to cold water a yellow hue; to hot water, a more or less deep red hue. If to the latter solution there be added, first, phosphate of soda, and then hydrochlorate of lime, the phosphate of lime, which is precipitated, carries down with it the red colouring matter, and leaves the solution of a deep-yellow colour.

The same red colouring matter has also a considerable affinity for all albuminous fluids, and, therefore, for the serum of the blood. The explanation of the phenomena produced in living animals fed on madder, depends simply on the decision whether its affinity for serum be greater than its affinity for phosphate of lime; in other words, whether serum can or cannot remove the red colouring matter from its union with the earthy matter of the bones.

The experiment from which Mr. Gibson concluded that serum has a greater affinity for the colouring matter of madder than phosphate of lime has, is thus detailed by him:—"I took one dram of the phosphate of lime, tinged, as in Dr. Rutherford's experiments, and exposed it for half an hour to the action of two ounces of fresh serum, at the temperature of 98°. By this operation, the serum gradually acquired a red tinge, whilst the phosphate of lime was proportionally deprived of colour. In a comparative experiment, a similar quantity of phosphate of lime was exposed to the action of distilled water, under similar circumstances, but no change took place."

On repeating this experiment, I found that when the coloured precipitate of phosphate of lime and madder was washed with distilled water, no tinge of red was imparted to the water, but it acquired a bright-yellow hue. If, on the other hand, a similarly coloured precipitate were washed with serum, that fluid acquired (as Mr. Gibson says) a more or less deep crimson tint. But by filtering a large quantity of serum through the precipitate, I found that only the first portions that passed through were deeply reddened, that the succeeding portions became gradually paler, and that after a certain time no colour whatever was imparted to the serum, although the precipitate retained as deep a colour as is ever seen in the reddened bones. In like manner, by filtering repeated quantities of distilled water through a similar precipitate, it ceased at last to acquire any yellow colour. From frequent repetitions of these experiments, with the same results, I was led to believe that when the phosphate of lime is precipitated in a solution of madder, it carries down a certain quantity of colouring matter more than that which chemically unites with it; and in this view the explanation of the apparent difficulty is at once clear. When the reddened phosphate of lime is washed with cold or tepid water, only the uncombined yellow colouring matter is dissolved; but the serum having an affinity for the red colouring matter, dissolves all that is not chemically combined with the phosphate of lime, and then also ceases to acquire colour.

In order, therefore, to prevent serum from being coloured, by contact with the precipitate of madder and phosphate of lime, it is sufficient to employ any means that will prevent or remove the admixture of free madder with the precipitate. This may be effected by repeatedly boiling the impure precipitate, or by long continued washing with hot water; but it may be done more conveniently by filtering serum through it till it ceases to acquire a red colour; after which, any further quantity may be passed through, without changing either its own colour or that of the now pure and still deeply coloured phosphate. I have washed a few grains of precipitate, thus purified, with 12 ounces or more of fresh serum, without producing the slightest apparent change in either.

These facts are sufficient to prove that serum has no power to separate the colouring matter of madder from its chemical combination with phosphate of lime; but, on the contrary, phosphate of lime will remove the same colouring matter from its combination with serum. Thus, if to a solution of madder, in serum, there be added, first, phosphate of soda, and then hydrochlorate of lime, the whole of the colouring matter is precipitated, though more slowly than from an aqueous solution, and the serum presents again its natural yellow hue.

As phosphate of lime, therefore, has a more powerful affinity for the red

* It is essential to the success of all these experiments that both the madder and the serum should be used in as fresh a state as possible.

colouring matter of madder than serum has, the serum need not be saturated before the bones can acquire colour. Nor, indeed, does the serum ever become saturated in the living body; if it did, so intense would be its colour that it would be impossible to distinguish it from that of the venous blood itself. But in two cases in which I examined the blood of rabbits, which had been fed for several months with madder, the serum had its natural colour, and Dr. Rutherford * says, "that large quantities of madder are necessary to communicate any sensible colour to it."

It is evident, then, that madder, directly it is absorbed, will unite with whatever phosphate of lime is present in the blood; but I am, for many reasons, inclined to believe that the chief, if not the whole union, takes place at the growing bones in the very act of nutrition. Thus, every particle of phosphate of lime that is deposited, during the taking of madder, is reddened, and as such particles accumulate amongst and around the white particles already existing, the bone acquires a more or less intensely red colour. But the coloured phosphate of lime regains, after a time, its white colour; though not, as Mr. Gibson supposed, by the serum exercising a superior affinity, as soon as it loses its condition of saturation, for the serum neither becomes saturated, nor has it, when below saturation, any power to bleach the coloured bone. The bleaching is probably effected by a gradual decomposition of the madder, as reddened skeletons gradually lose their colour when exposed to air and light: in both cases it is a very slow process †, and in the living animal a long period of abstinence from the use of madder must pass before any change of colour is effected; so that this gradual bleaching, though it may be important in explaining general nutrition, need not be taken into consideration in any of the experiments that have yet been made to determine the mode of growth of bones.

One of the most important facts to be borne in mind, on this subject, is that the madder colours only those particles of phosphate of lime which are deposited during its use. Du Hamel knew this, as well as his knowledge of the chemical composition of the bones permitted him, but the fact has been very generally disregarded, and every writer on the subject, since the time of Haller, has implied that the madder, when taken into the blood, can impart its colour to the phosphate of lime already existing in, and forming part of the bones *. Direct experiment proves the contrary; the bones of old animals receive the red colour from madder very slowly, and never, under any circumstances, acquire more than a slight tinge of it. I gave madder to an old rabbit for twelve months, and at the end of that time its bones had acquired so slight a tinge of redness that it was doubtful, to many, whether they had been altered at all. In another rabbit, 12 months old, and fed for 4 months, the redness was decided, but extremely pale. All the experimenters on this subject affirm, in general terms, that the bones of old animals are coloured more slowly and less deeply than those of young ones; † but none of them detail their observations. In most of the cases where old animals were fed on madder, to observe the reparation of fractures, the colour of the bones is not mentioned at all ‡, but on one occasion Detlef § says, "that the bones of an adult pigeon, after several days use of madder, were quite white, while the callus, formed around some fractures, was bright red." The general result of Du Hamel's numberless experiments are conclusive on this point; he says ‖, "that the bones of old animals did not acquire colour till after a considerable time, and that even then the colour was always pale." It is evident, from these facts, that the phosphate of lime, already deposited before madder is

* L. c. p. 141.

† Du Hamel is quoted by Haller, Gibson, John Bell, and many others, as if he had stated that the bleaching of reddened bones is a rapid process. In the only place to which their quotations can refer (Mémoires de l'Acad. des Sc. 1739, p. 4), he merely says, that "the redness of one of the bones, in the wing of a pullet, as seen through its transparent skin, gradually vanished;" but in Fougeroux (Mem. sur les Os. p. ix.) it is expressly stated that Du Hamel considered himself to have been deceived in this observation, and his subsequent experiments showed that the apparent fading, in this and many other cases, was the result of the deposition of white layers of bone externally to, and obscuring the red.

* I have no doubt that John Hunter was acquainted with the truth, although, as Mr. Owen observes, "there is a contradiction between the observations in different parts of his writings." See Hunter's Works, by Palmer, Vol. 4, p. 315, and Vol. 2, p. 17.

† See Haller, Elementa Physiologiæ, Vol. 8, p. 333.

‡ As in Detlef's experiments, xii. and xiii., in Haller's Opera minora, V. 2, p. 471.

§ L. c. p. 466.

‖ Fougeroux, l. c. p. viii.

taken, is not coloured by it; else the old bones should acquire the red colour as soon and as fully as the young ones, which, on the contrary, become as much tinged, in 24 hours *, as the bones of adults are in 12 months.

To explain the pale redness which old bones may at last acquire, it is not necessary to suppose that old white particles are removed, and new red ones deposited in their places; for long after the bones of an animal have ceased to increase in size, that is, long after the animal has attained its full stature, there is a constant increase of their density, by the interstitial deposition of additional earthy matter, whether alone, or as Dr. Rees' analyses † render more probable, in combination with animal matter. Now, every particle of phosphate of lime thus added to the bones of a full grown animal, feeding on madder, would have a red colour, and thus by the gradually increasing number of red particles interspersed among the white ones, the bones acquire, at last, a distinct, though pale red hue, but never attain the same intensity of colour as those of growing animals, in parts of which so much more phosphate of lime is being deposited.

The same conclusion, that only those particles of phosphate of lime which are added to the bones during the use of madder, are coloured, may be drawn from the experiments in which, by the alternate use and disuse of madder, alternate rings of white and red bone were obtained; from the deep redness which the ossified callus around fractures acquires, while the bones themselves, even in young animals, become only pale red; and from the light colour which is imparted to those bones in young animals, which attain nearly their complete hardness at an early period, as the ossicula auditus ‡.

The result of all these facts is briefly this: when a growing animal is fed on madder its red colouring matter is absorbed, dissolved in the serum, and carried with the blood to all parts of the system: at the bones it is immediately precipitated with every particle of phosphate of lime that is being formed and deposited in them, but it has no influence on the phosphate of lime already existing in them before its administration, nor has the serum any chemical power to remove the colour from the phosphate of lime once tinged.

After these general observations, the experiments of Du Hamel and others may be more profitably considered. In reference to the increase of diameter of the shafts of long bones with medullary canals (to which the experiments almost exclusively relate), Du Hamel * shewed that it is effected by the deposition of osseous matter on the external surface of the walls, by experiments in which he alternately gave madder with the food of growing pigs, and withheld it from them †. From among a great number of such experiments, he relates the following ‡:—A pig, six weeks old, took madder for a month; then ceased from it for six weeks, and was then killed. In the femur and tibia the medulla was surrounded by a moderately thick layer of white bone; this was encircled by as thick a zone of red bone, which, again, was covered by a moderately thick layer of white bone. A second pig, aged two months, took madder for a month, then ceased from it; then took it again for a month, and was then killed. In this case there were, around the medulla, first a white layer, then a red one; then a second white, and lastly a second red zone. A third pig was treated like the second, but, after the second period of taking madder, returned, for some time before his death, to common food; and in his cylindrical bones there was, in addition to the four layers found in the second, a fifth layer external to them all, and of a white colour.

It is not necessary to adopt Du Hamel's first opinion, that these alternate layers were formed by the successive ossification of layers of the periosteum. It is evident, indeed, that in all those of his papers which are commonly quoted, he understood by periosteum something very different from the thin fibrous membrane to which that name is generally applied; and it is satisfac-

* Du Hamel, sur une racine, &c. Mém. de l'Acad. des Sc. 1739, p. 11.

† Medico-Chirurg. Trans. Vol. 21.

‡ See Boehmer, in Haller's Elementa Phys. 8, 334.

* Mémoires de l'Acad. des Sciences, 1739-41-42-43.

† Mr. Gibson, who appears to quote from John Bell's Anatomy, speaks of these experiments as performed on cocks, and then, joining with Mr. Bell in his ridicule of them, leaves the reader in doubt whether Du Hamel reported falsehoods or absurdities. There is not any mention in any of Du Hamel's papers of experiments of this kind performed on birds.

‡ Mémoires, 1742, p. 365.

tory to find that he himself, at a later period, entirely gave up the theory for which he has ever since been ridiculed. In a letter to M. Bonnet* (which all his commentators have overlooked), he admits that he was led, by the writings of Malpighi, into the error of supposing that the new wood of growing trees is formed from the bark; and from this had drawn the incorrect analogy of the formation of the new bone from the periosteum. When, however, he had more minutely studied the growth of trees, he found (according to the opinion at present received) that in exogenous plants the new wood is formed from a layer of soft substance, the cambium, deposited between the alburnum and the bark, which, hardening and dividing, contributes to form on the one side new wood, and on the other new bark. Then, returning to the examination of bones, but still with the idea of the analogy of their formation to that of wood, he says (p. 165), "The wood increases in size, by the addition of thin layers which form between the wood and the bark. The bones increase in size, by the addition of thin layers which form between the periosteum and the bone."

Neglecting, however, the unnecessary and loose analogy between bones and trees, in which even Du Hamel's faith was at last very weak, it is impossible not to deduce, from the experiments described, that the growth of long bones in circumference is effected by the successive addition of external layers, whether (as is by far most probable), they be produced from the bone already formed, or (as Du Hamel imagined) from the periosteum. Admitting, for a moment, Mr. Gibson's supposition of the superior affinity of serum for the colouring matter, it is impossible that the white layer supposed to be deposited during the disuse of madder, should be a part of the old reddened bone, from which the madder has been removed after having been redissolved in the serum; for this would not account for the alternation of colours in the several layers. In the case of the third pig, for example, if one supposes that, while madder was being taken, the part of the bone formed before and during that time was reddened, but that when the madder was discontinued the serum was occupied in removing the colour, it is yet inexplicable why it should remove it in layers, so that at the animal's death, instead of a diffused pale redness or total whiteness, there should be three zones of white bone and two of red. If too, it were possible that in the first experiment the outer part of the red zone had been decolourized after the madder was discontinued, it cannot be supposed that the same change was effected in the third; because in it, had such been the case, the layer of reddened bone nearest to the medulla, which had been exposed to the action of the serum during two periods of disuse of madder, ought certainly to have been completely blanched. Thus, were Mr. Gibson's opinions true, they would involve an inexplicable contradiction.

Du Hamel's experiments are confirmed by all that have been related since by Hunter, John Bell, and others*; and the view deduced from them, of the constant super-addition of layers during growth, is supported by other experiments of a different kind. Thus Du Hamel† passed a wire round the bone and periosteum of a young pigeon, and tightened it: after twenty days the bone broke beneath the wire, and on examination, it was found that there was no increase of size in the shaft, in the line under the wire, but that a thick border of bone was formed on each side of it. In another case‡, a ring was put round the tibia of a young pigeon, under the periosteum; the growing wall was cut through by it, and, when the parts were examined, the ring was found not larger than the medullary canal. An experiment confirmatory of these was made by Mr. Hunter§; in which shots, placed in holes in the wall of a fowl's bone, passed into the medullary canal. Mr. Stanley's experiments‖ are similarly confirmatory of Du Hamel's; and he remarks from them, that a piece of

* Lettre sur la Formation des Os dans les Animaux et du Bois dans les Arbres; in the "Recueil Périodique d'Observations de Médecine," &c. Sept. 1759, p. 161.

* But none of the later observers appear to have avoided any of the many sources of fallacy which Du Hamel pointed out; and hence, probably, in some measure, the uncertainty into which they have fallen. (See especially Du Hamel's Quatrième Mémoire, in the vol. for 1743.)

† Mémoires, 1742.

‡ Mémoires, 1743, p. 102.

§ Works, by Palmer. vol. iv. p. 317. Note by Mr. Owen.

‖ College Lectures, Med. Gaz. vol. xx. p. 385.

metal fixed in the wall of a bone, soon becomes imbedded in it by the growth of new bone over it *.

It is evident, then, from all these experiments, that the growth of a long bone, in its whole circumference, is effected by the successive addition of new layers to its external surface; the coincident increase of the size of the medullary canal is effected by the removal of layers from its internal surface. Du Hamel was aware of the necessity of two such simultaneous and opposite processes; but while he correctly illustrated the external addition, he ascribed the other to an action which he vaguely called expansion. Mr. Hunter more strictly explained it by a reference to the action of the absorbents. The whole truth at present known is included in a union of the correct opinions of each of these authors. The process of external addition is continued for a longer time than that of internal removal; and later than either, as well as coincidently with both, there is also a constant, but far less abundant, interstitial deposition, tending to the increase of the bone's density without any increase of its size.

In respect to the increase of bones in length, the use of madder is less distinct, though it fully confirms the results of other experiments, whose evidence is more palpable. Of the latter, the following are found in Du Hamel's papers †:—

I. Two moderate-sized holes were made in the middle of the shaft of a little lamb's fore-leg, and after sixteen days the space between them had increased from 1 inch to 1 inch 2 lines.

II. In the tibia of a dog, aged 15 days, five holes were bored: No. 1 near the proximal end; 2, nearer the middle; 3, exactly in the middle; 4, nearer to the distal end; and 5, still nearer. Fifteen days after, the middle hole (3) was a line further from each of those nearest to it (2 and 4), and 4 was five lines further than at first from 5.

III. Four holes were made in the tarso-metatarsal bone of a young pigeon: 1, near the foot; 2 and 3, on each side of the middle; 4, near the proximal end. Eight days after, 2 and 3 had not changed their distance, but 1 was one-fourth of a line further from 2, and 4 was half a line further from 3.

IV. In a chicken, six weeks old, with a tibia (?) two inches long, a piece of wire was stuck in, half an inch from the distal end of that bone; a 2d piece, half an inch from the first; a 3d, half an inch from 2; and a 4th, half an inch from 3, and half an inch from the proximal end. After seven weeks, the bone was three inches long: 1 was now nine lines from its distal end; 2 was half an inch from 1, and half an inch from 3; 3 was fifteen lines from the proximal end; so that this bone had grown nine lines at the proximal end and three lines at the distal, but had not increased at all in the middle.

Hunter's experiments confirm those of Du Hamel; as well those mentioned by Sir Everard Home*, in which the experiments (like some of Du Hamel's) must have been made on rather old pigs, as that of which the preparation remains in the museum of the College. In these experiments no general mention is made of a greater increase at one end of the bone than at the other. In Du Hamel's the chief increase was at the proximal end; but in a series of experiments in which I assisted Mr. Stanley, there appeared to be certain differences in this respect in different animals. Thus, in two experiments on the tarso-metatarsal bones of pigeons, the increase was, as in Du Hamel's on pigeons and chickens, chiefly at the proximal end; while in the ulna of a kitten it was chiefly, and in the ulnæ and radii of dogs entirely, at the distal end. In other respects these experiments† entirely confirmed those of Du Hamel. None of the animals used were very young, and in none was there any increase of length in the middle of the shaft.

The general result of these experiments, then, is that which Du Hamel stated—that the increase in the length of bones is effected by the growth of those parts which are not yet hardened. Ossification commencing in the middle of the shaft, and proceeding rapidly towards its extremities, it is only in very young animals that any increase in the middle can be perceived; the later increase of length is due to the addition of osseous matter to the parts not yet hardened;

* There are preparations illustrating this fact in the Museum of St. Bartholomew's Hospital.
† Memoires, 1743, p. 111.

* Hunter's Works, by Palmer, vol. iv. p. 317.
† The preparations illustrative of them are in the Museum of St. Bartholomew's Hospital.

and at the latest periods of growth is effected entirely by the ossification and reproduction of the intermediate cartilage between the shaft and the epiphysis.

In their applications to the explanation of the growth of bones, experiments with madder are thus proved to be conclusive: with a knowledge of the principles on which they depend, and with a careful avoidance of some sources of fallacy that have been pointed out, they may be employed with entire confidence; they afford to the observer the means, as it were, of branding with his own mark every particle of phosphate of lime that is deposited during a given time.

Their applications to the general doctrine of nutrition are less certain: for, in the first place, it is not clear that the laws which govern the production and maintenance of the earthy and inorganic matter of bones are applicable to the nutrition of soft parts; and if they be, the result of the madder experiments is at present in this point of view entirely negative, if not opposed to the idea of a constant mutation of particles. Seeing that the blood containing madder has no evident influence on the phosphate of lime already deposited in the bones, and that, on the other hand, blood not containing madder does not possess any chemical power to abstract the colour from the coloured phosphate of lime, it would appear as if there were no influence exerted during the state of health between the contents of the capillary system and the earthy matter already existing in the bones. And as, moreover, the bones of old animals are coloured by madder only to that degree which appears explicable by their increase of density, it would seem as if, in the state of health, or in what I would call the state of *nutritive equilibrium*, the earthy matter of bones undergoes no change.

CONTRIBUTIONS TO THE COMPARATIVE ANATOMY OF THE BLOOD-DISCS, OR RED PARTICLES OF THE VERTEBRATE ANIMALS.

By Richard Owen, Esq. F.R.S. &c.

[*For the London Medical Gazette.*]

In answer to an appeal from my friend Prof. Wagner, I have examined and compared the blood-discs of some of the rarer animals in the Zoological Gardens, and give, in the present communication, the result obtained from the following species:—

Order Pachydermata.—Elephant (*Elephas Indicus*), male, nearly full grown.
—— Rhinoceros (*Rhinoceros Indicus*), male, full grown.
Ruminantia. — Dromedary (*Camelus Dromedarius*), male, full grown.
—— Giraffe (*Camelopardalis Giraffa*), male, nearly full grown.
—— Edentata.—Armadillo (*Dasypus 6-cinctus*), male, full grown.

The blood-discs were examined as they floated in the serum; also in a portion of blood thinly spread and rapidly dried upon slips of glass; lastly, as preserved in a solution of common salt of the strength of ordinary serum.

The observations were made by a Ross's Wollaston's doublet of a 1-8th inch focus, with Dujardin's illuminator, in the compound microscope belonging to the Royal College of Surgeons, and repeated, by the kind permission of Dr. Arthur Farre, with the same power and illuminator in the excellent microscope lately completed by Mr. Ross for that gentleman.

I have also to return my best thanks to Mr. Youatt, medical superintendent to the menagerie of the Zoological Society, for his prompt and obliging aid in obtaining the blood for my examination.

The blood from the *Elephant* was taken from a small vein on the side of the ear.

The red particles presented the usual figure characteristic of the mammiferous class, viz., the circular, flattened, slightly biconcave disc: their size varied more than usual, but that of the greatest number exceeded, by about one-fourth, the average-sized human blood-disc, which I take for the present comparison at 1-3500th of an English inch*.

* This is, perhaps, somewhat less than the true standard; but the difficulty of arriving at this is increased by the variation in the size of the average-sized blood-discs of different individuals, as well as by the difference which the blood-discs of the same individual present. I have been favoured by Mr. Bowerbank, whose great skill and accuracy in microscopic investigations are well known, with the following results of his examination of the blood-discs in four individuals, three male, and one female:—

The average-size of the blood-discs of the first

The largest blood-discs of the elephant were twice the size of the ordinary sized human blood-disc; the smallest equalled them in diameter: hence, the blood-discs of the elephant are of a larger size than those of any other mammiferous animal hitherto examined; but I need hardly observe that this relation of the size of the blood particles to the bulk of the individual is by no means constant in the *mammalia*, and that the discrepancy in this respect is still more remarkable in the lower classes.

The action of the salt solution upon the blood-discs produced a slight diminution of their size; and the number of those which presented the concave, or basin-shaped figure, was greater than in the recent blood. A few of the minute chyle (?) or lymph (?) particles were present, but I could not distinguish, in any of the portions of the elephant's blood examined, that variety of form in the blood-discs which Prof. C. H. Schultze has described in the blood of an elephant, killed at Potsdam, by means of hydrocyanic acid, and which induces him to describe the blood of this mammiferous animal as containing in itself all the various forms of particles which characterize, respectively, the blood of insects, mollusks, fishes, reptiles, and mammals *.

Rhinoceros.—The blood of this animal was obtained by a small incision in the upper lip, and was consequently of a mixed arterial and venous nature. The huge creature being attracted by a favourite dainty presented to him by his keeper, seemed quite insensible to the operation, and quietly allowed the blood to be collected as it trickled down.

The blood-discs presented the usual mammiferous form, and a less variety of size than in the elephant. The average diameter is one-sixth less than that of the human blood-disc. The largest sized blood-discs of the rhinoceros have a diameter of 1-3800th of an inch; the smallest, 1-5200th.

Among the accidental circumstances observed in the examination of the blood of the rhinoceros, I may mention, that although that portion spread on glass was dried under the same circumstances as were the portions of blood obtained from other animals, a far greater number of the particles presented the granulated or mulberry character than was observed in the blood of the other quadrupeds. Some of the particles examined while floating in the serum, likewise presented the granulated contour.

Dromedary.—In inspecting the blood of this animal, which was obtained from a slight incision in the skin of the leg, I had the gratification of appreciating the accuracy of Dr. Mandl's recent interesting discovery of the elliptical form of its blood-discs. These present fewer differences of size than in the rhinoceros, but among the elliptical particles there were a few which presented the circular form. The long diameter of the average-sized elliptical discs was 1-3800th of an inch, the short diameter, 1-6500th.

Giraffe.—The blood of this animal,—mixed arterial and venous,—was obtained from an incision in the integument of the face, and presented the particles of the circular form, as in the ox, and ordinary ruminants, and in the mammiferous ♀ class ♂ generally. The average size of the particles was nearly one-third smaller than those of the human subject; the largest, which were few in number, measured 1-4000th; the smallest, 1-4800th of an inch: the average size, 1-4500th. The result of the examination of the blood of the largest of the ruminating tribe is interesting, inasmuch as it indicates that the size of the blood particles relates to the condition of the whole organization, rather than to the bulk of the species. It would appear, from the examination of the blood-discs in the goat, sheep, and ox, that an unusually small size of the blood-discs was associated with the peculiarities of the ruminant structure.

Armadillo.—The blood-discs of this little quadruped rather exceed in size those of the rhinoceros; but the varieties and size in different particles or vesicles have a more limited range. They present the usual mammiferous form. The average diameter is 1-3300th of an English inch.

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was, in fractions of an English inch, 1-3687, the extremes being 1-4545 and 1-3279.

In the second individual, a female, the average size was 1-3474, the extremes being 1-3891 and 1-3105.

In the third individual, the average size was 1-3343, the extremes being 1-3922 and 1-2754.

In the fourth individual, the blood-discs presented the remarkably large average-size of 1-2861, the extremes being 1-4166 and 1-1862.

* Muller's Archiv. fur Phys. 1839, p. 252.

CASE OF POISONING BY MURIATIC ACID.

To the Editor of the Medical Gazette.

Sir,

There being, I believe, (in this country at least) no instance on record of poisoning by muriatic acid, and only one on the continent, as mentioned by Orfila, I have taken the liberty of sending you an account of a case of this nature which was brought to this hospital on the 17th of last month, and which I trust will be found worthy of a place in your widely circulated periodical.

The subject of the present communication was Frederick York, a man of industrious habits, about 40 years of age, and by trade a wadding-maker. On the morning of the 17th, the day in question, he came to his employment at his usual time, and nothing singular was remarked in his manner, with the exception of his being rather more merry than ordinary. About 10 o'clock he asked his master to allow him to leave his work for an hour or two, as he wished to go to the London Hospital (of which institution he was an out-patient); his master having consented, York immediately left for the purpose, as it was supposed, of going to the hospital; but instead of doing so, it was ascertained afterwards, that he prevailed on a boy, who worked at the same establishment as himself, to accompany him to a chemist's in the neighbourhood, of whom he wished to purchase some muriatic acid to put into some size he was going to use. On their way to the chemist's York called at the house of a female friend, of whom he borrowed two-pence and a small phial; in his conversation with her he complained of having been ill-treated, and as far as she is able to recollect, he stated "that either he or somebody else should suffer for it," or words to that effect. On arriving at the chemist's, York requested the boy to remain outside the shop, whilst he went in to purchase the acid; on receiving it he placed it in his bosom, between his shirt and waistcoat, and by some means or other, most probably from the unsoundness of the cork, some of the contents of the phial were spilt about his dress, especially about his waistcoat, which was noticed by his master and others to be of a red colour where the acid had come in contact with it—a fact that will be mentioned again presently.

When he got back to his employment again he took the phial from his bosom and desired his master to smell it, which he did, and on returning the phial to York, he added that he must be careful of it, to which York replied that he would, for he was well aware that it was strong poison. Some little time after this, the boy who accompanied him noticed that he put into the size a small quantity of the acid, not more than a table-spoonful. About half past two o'clock he complained to those who worked with him of being unwell, and expressed a wish to go home to lie down, which they advised him to do; he therefore left his work, and on arriving at his house (which was about three-quarters of a mile from the factory at which he worked) he was seen by a female lodger, to whom he told that he had taken poison, and complained greatly of the pain in his throat and stomach; she did not believe him at first, but advised him to go and lie down on the bed which was in an adjoining room; in proceeding to do so he fell, and in falling, struck his head against the door post; she now became alarmed, and informed some of her neighbours of what had happened, and by their assistance he was lifted up and placed in a chair, when he leant back and said, "I am a dead man." After this he recovered a little, and took a cup from a shelf and went to the water jar, and having filled it drank the contents, and seemed for a little time much easier; but shortly becoming worse, his friends procured a coach for him, and he was brought off to this hospital, where he was quickly seen by the apothecary, who administered to him magnesia, milk, and the other remedies employed in such cases, all of which failed to relieve him; he complained more and more of the pain in his throat and stomach, and repeatedly asked for water to drink. From the hour of his arrival, which was about five o'clock in the evening, he lingered on till five on the following morning, when he expired, being about twelve hours after his admission. Shortly before his death he told his wife that he had taken muriatic acid; and this his friends state was the name that he gave to it, to all who asked him what he had swallowed.

No precise reason can be assigned for

his taking it. His employers state that on the evening before, he had a quarrel with his wife, which might have been the cause of his committing such a rash act; but the wife, on the contrary, denies this, and states that he must have taken it in mistake for some rum; a small quantity of which he was in the habit of drinking, as he himself expressed it, "to cure his lowness of spirits." He had been for some time an outpatient of this hospital, but being greatly relieved, he talked on the morning before he left home of going to the hospital to procure a letter of thanks, for the governor who had given him the admission ticket. It is not known where he took the acid, whether at the place at which he worked, or on his way home: the vial in which it was contained has not yet been found.

Sectio cadaveris nine hours after death.—Body muscular and well formed; old pleuritic adhesions on both sides of the chest, and both lungs adherent to the diaphragm. The heart rather larger than natural, and the left ventricle much hypertrophied. The liver of a dark colour, and the gall bladder greatly distended with bile: it was of a bright yellow colour, except at one spot about three-fourths of an inch in diameter, where it touched the stomach; at this part it was of a green tint. The stomach itself was also much distended, of a dark lead colour, and its vessels full of black blood; the intestinal canal was of the same leaden hue, and its vessels also much engorged with blood. The peritoneum was much injected, and slight depositions of lymph were found throughout the whole peritoneal coat of the alimentary tube. On removing the stomach and œsophagus, and examining them, it was noticed that from the mucous membrane of the latter the epithelium had been removed, and the mucous membrane itself was also injured. The coats of the stomach were much affected, and in many parts nothing but the peritoneal tunic was left: in taking it out it gave way, and about six ounces of a dirty yellow fluid were collected: this coagulated into a solid mass about ten minutes after its removal. The whole internal surface of this viscus was covered with a thick coating, of a yellowish colour, resembling paste, probably caused by the coagulation of the cheesy portion of the milk which was administered, or from other albuminous matters. Underneath this the whole internal surface was stained of a black colour, in some parts more than at others, presenting a charred appearance: this was most marked near the cardiac and pyloric orifices, and near the great cul-de-sac: this blackening extended also through the duodenum its whole length, especially on the prominent parts of the numerous valvulæ conniventes, the intervals being stained of a greenish yellow colour by bile, and spots were observed here and there on the jejunum, for about a foot and a half from its commencement.

Remarks.—On examining the contents of the stomach no trace of muriatic acid could be detected; the fluid that was squeezed from the coagulum gave no indication of acidity when litmus paper was put into it, nor any trace of a chloride when nitrate of silver was added, neither did the distilled water in which a portion of the stomach and duodenum had been boiled. This, I believe, is not unusual, as both Drs. Christison and Beck give examples of this kind, where both sulphuric and nitric acids have been taken, and on examination after death no trace of either has been discovered; but this case would seem more remarkable from the circumstance of muriatic acid being a product of the stomach, either in its natural or diseased state. The fact mentioned above of a portion of the gall bladder being turned green where it came in contact with the stomach, must not be overlooked. I put this in my notes as a thing I had never before seen: it did not strike me at first that the presence of muriatic acid in the stomach might have been, and probably was, the cause of this appearance, and it would be interesting to notice, should another case of poisoning by this acid occur, whether such a change had there taken place.

On my going to this man's employers on the 25th, which was eight days after the melancholy occurrence, I found that they possessed the waistcoat that was stained by his putting the vial into his bosom: this they kindly gave me, and I observed, on that part which corresponded to the left breast, a large stain not of a red colour, as I imagined it would have been, but of a greenish hue: this I touched with my tongue, and by this means could distinctly recognize an

acid taste, the presence of which was further corroborated by my cutting off a piece of the cloth and soaking it in distilled water, when litmus paper was powerfully reddened, and a dense white precipitate was produced with nitrate of silver, which precipitate was soluble in ammonia, insoluble in nitric acid, and presented the other characteristics of chloride of silver—the most important of which, perhaps, is that of being blackened by exposure to light. To satisfy myself that the green colour just now described was produced by muriatic acid, I put some of this liquid about the waistcoat, which I observed was made of black cloth, and on the fourth day after its application I was pleased to find that this also, which was first red, had changed to a green, precisely similar to that portion which was stained by the contents of the vial; which is a fact perhaps worthy of mention. The cloth itself did not appear more rotten at the stained parts than at the unstained.

Your obedient servant,

JOHN QUEKETT,
Medical Student, London Hospital.

Wellclose Square,
Nov. 7, 1839.

ON VACCINATION.

DR. GREGORY IN REPLY TO DR. BARON'S REPORT.

To the Editor of the Medical Gazette.

SIR,

IT can be of no importance to your readers what the courtesies of society induced, or the time allotted for discussion, and the hour appointed for dinner, enabled me to say at Liverpool; I am quite prepared to enter on the question, if it should be deemed essential, but otherwise I am unwilling to occupy space and time that may be more profitably employed. But though these be matters of indifference, it is not a matter of indifference whether a report, emanating from an influential body in this country, does really do what it professes to do—give a full and correct statement of the present state of vaccination both with respect to theory and practice. If it does, the discussion of the subject in your widely circulated columns will add largely to the sphere of its usefulness. If, on the other hand, important circumstances are omitted, conclusions hastily drawn, and facts imperfectly represented, it is surely desirable that such omissions and inaccuracies, both of fact and argument, should be pointed out. I proceed, therefore, with criticisms on Dr. Baron's report.

The most important doctrine advanced in that report is to be found at page 59, where we read, thus: "We hold it to be proved beyond all doubt, that the same general laws which govern human small-pox apply, *mutatis mutandis*, to cow small-pox. We have a great weight of testimony all entitling us to assert that the cow-pox, duly and efficiently communicated to man, does not lose its influence by time. This opinion, which formerly admitted only of analogical illustration, has now, by the experiments of Mr. Ceeley, received a direct and positive confirmation." These sentences contain matter for grave reflection. I profess myself unable to see the force of the argument. It confounds common origin with identity. It assumes that because cow-pox can be obtained by inoculating the cow with small-pox matter, therefore cow-pox and small-pox are identical affections governed by the same laws. These two things however, are very different. To give a simple illustration. Calomel and corrosive sublimate have a common origin in chlorine and mercury; but calomel and corrosive sublimate are not identical, and what is true of the one is not true of the other. The agencies of the one cannot be anticipated from knowing the agencies of the other. The mere fact of community of origin does not enable us to predicate that the same laws which govern one agent apply, *mutatis mutandis*, to the other. By passing through the body of the cow, the variolous virus undergoes a great change. It no longer produces fever. It no longer produces eruption. It excites a different kind and degree of local inflammation. The areola of cow-pox is not the areola of small-pox. The purulent tendency of the one is strongly contrasted with the lymphatic effusion of the other. If, then, such remarkable differences exist in the phenomena developed by the direct application of the respective poisons, we are scarcely entitled to reason concerning their ulterior effects, on the assumed principle that the general laws which govern the one apply, *mutatis mutandis*, to the other. It may be true that the security afforded by cow-pox

is fully equal to, or as Dr. Baron seems inclined to admit, superior to that which attaches to small-pox inoculation. It may be true that cow-pox duly communicated does not lose its influence by time; but these important laws must be deduced from an accumulation of facts. They cannot be admitted on the principle that community of origin implies identity of results.

The report concedes (page 59) that the protecting power of cow-pox may disappear, but contends that this is no more than what occurs with those who have had human small-pox. Identity of governing laws requires, however, more than this. It demands that the proportions of those attacked and the rate of mortality should approximate. The experience of the world fully proves that there is no approximation between the numbers attacked by small-pox after vaccination, and the number of those who take small-pox twice. In Dr. Baron's life of Jenner (page 278) it is remarked that, in 1798, when Jenner's discovery was first announced, "it had *escaped* the attention of medical men that small-pox occurred a second time as frequently as it has been proved to do, both by recent experience and past history." Is it not strange that when men's attention was fixed exclusively on small-pox, a circumstance of this importance should have escaped observation, and should only have attracted notice when small-pox was comparatively rare? Is it conceivable that Jenner, who for twenty years had been studying small-pox closely, with an ultimate view to the diffusion of vaccination, should have been so ill informed as to the extent of second attacks of small-pox, as is here supposed; for Dr. Baron admits "that such an impression led to a too confident statement of the never failing efficacy of vaccination." Is it not more probable that Jenner was correct in his original views of the permanency of the protection afforded by once undergoing small-pox; and that the ardour of his followers in support of vaccination led them to overrate the frequency of recurrent small-pox?

Even the facts adduced in Dr. Baron's report do not bear out his statement. For instance, when noticing the variolous epidemic of Marseilles in 1828 (referred to at p. 65), it is remarked that, out of 30,000 vaccinated persons, 2000 were attacked with small-pox, of whom 21 died (being in the ratio of 1 in 15 attacked, and one death in 100); while out of 2000 persons who had previously had small-pox, 20 took it a second time, of whom 4 died (being in the ratio of 1 in 100 attacked, and 20 deaths per cent). A difference so strongly marked satisfies me that cow small-pox and human small-pox are not (as Dr. Baron, at page 62. asserts they are) alike in their general properties, but that the laws of cow-pox must be framed independent of all facts and reasonings concerning its origin.

At the Small-Pox Hospital, it is the rarest event to meet with a person who alleges that he had small-pox at an earlier period of life. How is this? twenty such cases are said to have occurred in one year at Marseilles, a town not containing a twelfth part of the population of London. Yet in the severe epidemic of last year, no case of the kind applied for admission into the Small-Pox Hospital. The cases which I have seen in the course of twenty years are too few to enable me to say any thing regarding either the character of the disease, as it occurs a second time, or the intervals that elapse between the two attacks. On the other hand, of cases of small-pox subsequent to cow-pox, I may have seen about 2000, and know pretty accurately the character of the disease as it so occurs, the circumstances under which it occurs, and its average rate of mortality.

Dr. Baron has not laid much stress on the Annual Reports from the Small-Pox Hospital, for reasons which will probably appear in your next number. Whatever those reasons may be (and I dare say they are very good ones), it is satisfactory to me to know that the results of our experience there are corroborated by the least exceptionable authority to which we can refer in this country. Dr. Baron (at page 81 of his report) states that he has been favoured with some communication from Sir James M'Grigor, but he does not give its exact import. I have lately had an opportunity of perusing the returns, exhibiting the amount and character of the small-pox, occurring after vaccination, in the British army on home service, for the five years ending Dec. 31, 1838. I have reason to know that a similar return from the British army on foreign service is now preparing, and

that instructions have been issued for extending the reports to Dec. 31, 1839. When completed, these documents must necessarily prove very valuable. There can here be no cavil about the reality of the preceding vaccination, because the attention bestowed upon every recruit entering the British army, and on every soldier's child, with reference to vaccination, is excessively strict, and leaves nothing to be desired. I have not received Sir James M'Grigor's permission to publish, *in extenso*, that portion of the return which is now completed; but I may be allowed to say that it fully bears out the four great statistical principles deducible from the experience of the Small-Pox Hospital, which are—1, That, on an average, out of every 100 cases of small-pox occuring after vaccination, 60 are mild and modified, 40 confluent and severe. 2. That the mortality in these 40 cases follows the usual law of the casual small-pox, without reference to prior vaccination. As a consequence, 3dly, that the average mortality of small-pox, after vaccination, is 10 per cent., varying between 7 and 12. 4. That the disposition to receive small-pox after vaccination is greater in adults than in children.

In the annexed table I have indicated enough to shew the singular coincidence between the results of civil and military practice, in reference to small-pox.

Table exhibiting the character of small-pox (with the rate of mortality), as it occurred in 1838, *to vaccinated persons in civil and military life.*

	Total Number.	Distinct & Modified Cases.	Confluent Cases.	Deaths.	Rate of Mortality.
Cases occurring in the British army on home service, in 1838.....	237	153	84	29	12 per cent.
Cases occurring at the Small-pox Hospital, in London, in 1838.....	298	190	98	31	10 per cent.

Dr. Baron (in his report, page 61) lays down the maxim "that all cases of reputed vaccination should be considered as no vaccinations at all, unless they have passed under the review of a competent judge, who has witnessed the different stages of the affection." I presume that Dr. Baron's implied meaning is, "who has witnessed the different stages of the affection," *and pronounced it to be regular;* but when laying down what he calls "a canon to be universally admitted and acted upon," that very important clause should have been inserted. The canon is good in theory, but wholly inapplicable in practice. In the case of an individual attacked 25 years after reputed vaccination, how is the medical man to ascertain whether his patient passed, during the process of vaccination, under the review of a judge? how is he to know what decision that judge came to, and whether he was competent or not to form such a decision? On a large scale the thing is quite impracticable. In all countries, therefore, the test chiefly trusted to is the character of the cicatrix. On the value of this test the report speaks very doubtfully. Dr. Baron intimates (page 33) that even if quite normal "it ought not absolutely to be trusted to," while all irregularities, and still more "the absence of a cicatrix, must be held to speak strongly against the existence of vaccine influence." There is not here much to object to, but I question whether this expresses all, in reference to the cicatrix, which may fairly be deduced from the facts now before the world. It appears to me, 1, that a perfect cicatrix is in itself a satisfactory proof that the individual has passed through regular cow-pox, and has derived from it all the protection which it is capable of giving. 2. That irregular cicatrices are compatible with full constitutional influence, because it so often happens that irregularities to the vesicle commence incidentally after the tenth day, when we may reasonably presume that the specific constitutional effect has been produced. 3. That the absence of a cicatrix is not decisive against either the present or prior existence of vaccine energy in the system, because, in many cases, the specific

inflammation is moderate, and the resulting scar wears out in the progress of life, as other scars do which are not the results of a specific poison.

I would next wish to direct the attention of Dr. Baron, Mr. Goolden, and others, to the following important principle,—that if so much nicety is required before we can safely pronounce that vaccination has preceded any given case of small-pox, so in like manner should it be a canon with all medical men not to admit any case to be one of recurrent or secondary small-pox, "unless the first attack passed under the review of a competent judge, who witnesscd the different stages of the affection," and pronounced it to be true small-pox. From my situation at the Small-Pox Hospital, I have been called upon to witness many cases of supposed secondary small-pox. Repeatedly have I found some error in diagnosis. In one case it was secondary siphilis; in another febrile lichen; in a third it was porrigo favosa. In a still larger proportion of cases, I convinced myself, by inquiring into dates, that the first attack was not variolous. The diagnosis between varicella and variola is at times very difficult, and even a "competent" judge may be deceived. If Dr. Baron's vaccine canon "were universally admitted and acted on," with reference to secondary small-pox, the number of such cases would, I apprehend, be very materially abridged.

I have still in reserve a few observations on that part of Dr. Baron's report which alludes to the advances in vaccine pathology made since the publication of Jenner's "Inquiry." These, if you will spare me room, shall form the subject of my concluding communication.

I am sir,
Your obedient servant,
GEORGE GREGORY.

31, Weymouth Street,
Nov. 9th, 1839.

FLUORIC ACID IN ANIMALS.

To the Editor of the Medical Gazette.

SIR,

IN the last number of Guy's Hospital Reports there is an article by Dr. Rees, on the supposed existence of fluoric acid as an ingredient in certain animal matters, and after various experiments, he comes to the conclusion, "that the fluoride of calcium should be expunged from the list of the constituents of animal substances." With all due deference to so high an authority, I must beg leave to relate a circumstance which, if the corrosion of glass is a sure test for fluoric acid, appears to me sufficient evidence of its presence in animal substances.

Being engaged on the teeth, I had the recent skull of a horse brought me: I extracted the teeth, and washed them, and for want of some other vessel, put them in a glass vase which stood in my room, and filled the vase with clear water, with the intention of procuring them clean; several weeks elapsed before I wanted to use them, when on turning them out and washing the vase, I was surprised to see it superficially corroded as high as the water had been. Now as this had not been exposed to any heat beyond the common temperature of the atmosphere, the corrosion could not be attributed to *phosphoric acid.*

Trusting that the love of truth will be a sufficient apology for troubling you,

I remain, Sir,
Your obedient servant,
IOTA.

Bath United Hospital,
Nov. 1839.

MEDICAL GAZETTE.

Friday, November 15, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

WORK GRATIS.

IT has from time to time been our painful but useful office to draw the attention of parents to the excessive competition which exists in our profession. At one time we told them of a surgeon who attends a factory in Lancashire containing 1173 men, for six guineas a year*; on another occasion we pointed out an advertisement for "an humble young lad," whose references were to be good, and who was wanted to officiate gratuitously as a medical assistant†.

* MED. GAZ. vol xx. p. 243.
† Ibid. vol. xxi. p. 928.

In the same article we gave the curious case of the Suffolk curate who practises physic for most slender fees, and on the charge being brought against him, retorts upon the accusing surgeon, that *he* used to bleed and draw teeth at sixpence a head. We, too, were the first to comment on that remarkable announcement in the *Times*, that a member of the medical profession would have no objection to perform the duties of valet*.

These facts are unfortunately very far from unique, as any one may know who gazes on the permutations and combinations of society as they are mirrored in the advertisements of our daily newspapers. Indeed, the race of practitioners who desire to have their work done gratis will naturally increase, as long as the wild rush of hungry and mistaken persons into our profession shall continue. If they cannot get a bellyful *plus* wages, they will accept the former alone, or in time may take places where the rations are dealt out according to the principles of Assistant-Commissioner Mott.

Here is a situation for those who like to work gratis:—

"Wanted immediately, by a general practitioner at the west end, a young man accustomed to retail, as assistant. He must be able to prescribe, if required. None whose moral character will not bear the strictest inquiry need apply. The advantages are such that no salary will at first be given. Apply," &c.—*Times*, Oct. 24, 1839.

Or, here is another, more exacting still.

"Wanted, immediately, an humble and well-conducted young man who understands retail, and can prescribe over the counter when required. A comfortable home and other advantages will be considered equivalent to a salary in the first instance. The best reference will be required. Apply," &c. —*Times*, Nov. 7, 1839.

The parent who studies the signs of the times, will pause when he sees theseadvertisements; and if his means are scanty, and he had proposed to spend a hundred and fifty or two hundred pounds on the education of his son, without additional capital to push him on when his apprenticeship is completed, he will do more than pause,—he will give up his rash intention.

Observe, too, that it is not a mere shopman that is asked for by either practitioner, but an assistant who can prescribe; one, in short, who joins the talents of a physician to the unwearied industry of a medical drudge. If, by prescribing, the advertisers mean prescribing accurately in writing, we should say that the combination is not met with every day; nevertheless, they may get it, for there is a glut in the market, and ability, medical ability that is to say, is a drug. After all, the employers will reply, "the work is not absolutely gratis; shelter from the weather, and a share of our family mutton and potatoes, must reckon for something." Why, yes; let us be candid; even an assistant's fraction of the most *modeste diner* must reckon for something, though for wonderfully little. He lives, in too many cases, "a man forbid," and must not cry "*repetatur!*" even to the *cyathus theæ*.

But then, both advertisers promise "advantages." However skilful the two assistants may be on entering their service, their skill will be polished up to a still higher pitch of perfection; in short, the more they work, the more they will know. True; but the same advantages would result from gratuitous work in other trades, where such a demand is rarely, if ever made. If the young engineer, on the completion of his apprenticeship, would toil for his meals alone on board the Starlight steamer, he might ultimately get a better engagement on board the Laurel; but in his

* Med. Gaz. vol. xxiv. p. 349.

more fortunate profession this is not necessary, and those who know their business are paid for exercising it.

Remark, again, that both the advertisers profess to give no salary at first; thereby intimating that a happier day may come at last, when their medical servants shall pocket a few pounds. But, sooth to say, these places, where there are no wages at first, always remind us of an instructive anecdote which we read many years ago. An Irishman being desirous to learn to play on the flute, applied to a professor of the art, and asked his terms, which turned out to be two guineas the first month, and a guinea the second; "Oh! then," exclaimed the pupil from the sister island, "I'll learn the second month." Now we are apt to imagine, perhaps too uncharitably, that at places like those we are criticizing, the reverse will be the case, and the unfortunate assistants will find nothing but first months.

One of the advertisers, besides gratuitous services, demands humility. This is probably the same practitioner whose wishes we noted in March 1838, and who then merely asked for "an humble young lad," but now, grown bolder by time, requires "an humble and well-conducted young man." It is probable enough, that in such a situation the lad or man will have an opportunity of learning not only humility (should he bring an insufficient stock with him) but two other cardinal virtues—temperance and fortitude.

It is touching upon a subject almost too trite for mention, if we add that gratuitous labour is not confined to the lower walks of the profession, but is equally required from the highest. In the matter of charitable institutions, as every one knows, there is not only a struggle among competitors eager to do the work for nothing, but considerable sums are often expended to attain the wished-for zero. "Ay, but they do this to get known," is the ready-made explanation. Likely enough; but in other employments people "get known" without this long quarantine. If a man were to paint portraits gratis for five years, it might ultimately procure him some monied customers; but the limners are not driven to this.

Surely the parties interested will in time open their eyes, and acknowledge that the constant struggle to be allowed to toil for nothing in our profession, is a proof of greater competition in it than can exist in those happier occupations where labour meets with its reward.

It is certain that in every age, as one employment falls into disuse, or becomes less lucrative, some other springs up, or requires a larger number of hands. The profession of engineer seems to be one which in our time has suddenly opened its portals to let in a crowd of applicants, and still has room for more. Whether we understand by engineer the great thinkers, the Telfords and the Brunels, who change the face of a country, and annihilate space and time; or those humbler aspirants to bread and occupation, who watch the motions of those machines which genius has created; in either case, the demand seems at present greater than the supply, and we do not hear in those quarters the dispiriting cry of the profession being overstocked.

But this we leave to individual consideration. The parent who clearly sees that he ought not to bring up his son to be a medical assistant will find some preferable employment; the negative will soon lead to the positive. Every one will confess that salaries varying from nothing up to forty pounds a year are no great bait, but rather make one admire the frank good sense of the "member of the medical profession," who desired last May to become a valet. But as hope is always at the bottom of the largest box, even of medical evils,

some one will ask, may not my boy rise from his professional serfdom to some free and distinguished post? Did not Dubois come to Paris with two sous and a half in his pocket, support himself by copying law-papers, and teaching reading and writing, and finally rise to the highest eminence as a surgeon*? He did; and so may others, with the same superhuman industry. But for one such instance there are a thousand where the unfortunate victim of his own or his parents' vanity drags on a wretched servitude thinly disguised under the name of a liberal profession. Experience teaches us not to take every sharp lad to be an unexpanded Dubois, on the testimony of his father or his aunt. In doubtful cases it will be safer to make him engineer on board the Starlight.

NON-MEDICAL QUACKS.

We have often had occasion to call the attention of our readers to the unblushing effrontery of medical quacks, and we also think it right to bring under their notice advertising quacks of another description, to caution them against the possibility of their names being paraded before the public without their knowledge or consent, and in a manner most injurious to their interests. The professors of medicine are of all scientific persons most obnoxious to this annoyance—articles of food, wearing apparel, carriages, almost all the necessaries, and many of the luxuries of life, are now dignified with medical certificates. No new-fashioned stay is ushered from the hands of the *artiste* without a testimonial of its invaluable properties; no bandage, truss, or instrument intended to relieve any defect, obtrudes itself upon society unaccompanied by a string of medical names, extolling its good qualities. The system has now arrived at such a pitch, that it has become an intolerable nuisance. The opinions of eminent medical men are sought for the purpose of private advantage to the speculator, and often obtained, the party granting the certificate not being at all aware what use it may be put to. We do not mean to infer that those certificates are given without a conscientious belief in the truth of what is averred, but we mean to say that in nineteen cases out of twenty, when a medical practitioner or other man of science is applied to for such a purpose, he would rather withhold than grant it. He grants it believing in its correctness, perhaps to get rid of importunities which are annoying to him, perhaps out of a good-natured desire to oblige the advertiser, or more frequently some friend who has introduced him.

The certificate thus got hold of turns out a mine of wealth to its possessor. At first he only shews it to his customers, as most likely he has made a sort of promise that it should not be published; next he prints it in the form of a circular, and distributes a copy of it with every article he sells; afterwards he rises higher in his flight, and advertises it in the newspapers: nor, indeed, will he stop here, but in many instances garbles it—suppresses some parts, adds to others, inserts the superlatives "most," "very," "exceedingly," "unquestionably," &c. &c. to suit his own purposes. Indeed, instances are not few, where whole letters have been written by the advertiser, and signed with the name of the gentleman who has unwarily given the sanction of a general testimonial, not one word of which letters did the person whose name it bears ever pen, and from many of the sentiments contained in which he entirely dissents.

We have been led into these remarks by an occurrence which happened last week. There is a firm, carrying on business as spectacle-makers, in Albe-

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* Med. Gaz. Vol. xx. p. 87.

marle-Street and Cheapside, under the name of Solomons. These people are daily advertising in the principal newspapers. They persuaded some gentlemen connected with medicine to sign a general testimonial in favour of their lenses, and others to give them a particular certificate: among the former is Dr. Francis Ramsbotham, who, having known the parties many years, and having made trial of the spectacles, was, we understand, induced, by their solicitations, to give his signature. After the lapse of about a year, there appeared, in a number of the papers of the day, a letter purporting to have been sent by Dr. Ramsbotham to Messrs. Solomons, signed with his name and dated from his residence, containing the most disgusting nonsense that ever was put on paper. This testimonial was, in fact, a complete fabrication; yet the parties unhesitatingly acknowledge their intention of substituting another name, as Dr. Ramsbotham is so fastidious. In a letter addressed to him, which he has forwarded to us, they very coolly say—"Now, sir, if you wish to have your name withdrawn altogether, we have not the least desire to use it, as we have a great many other medical gentlemen, of high character and reputation, which we cannot * used, and we can place one of them in your place." We trust that any one whose name is thus substituted will take legal steps against the parties.

DEATHS BY POISON.

THE "Gateshead Observer," of Nov. 2, contains a very important and interesting document on the subject of poisoning, which we subjoin.

We have before us a Report made to the House of Commons at the instance of Sir Robert Inglis, and ordered to be printed on the 27th of August in the present year. It is entitled, "Returns from the Coroners of England and Wales of all Inquisitions held by them during the years 1837 and 1838, in Cases where Death was found, by verdict of Jury, to have been caused by Poison." This Report is fraught with deep and melancholy interest; and considering that the public may be benefited by an extended publication of its contents, we have with considerable care and labour reduced the Returns into a compact and popular shape, to adapt them to our columns.

We regret, first, that the Returns are not complete, some Coroners having neglected to comply with the request of the Commons; and, second, that the Coroners who have made Returns, have, in many instances, omitted particulars of great moment. We have endeavoured, however, to make the best of the imperfect materials before us.

We have classed the deaths under the various descriptions of poison by which they were caused:—

Arsenic	184
Taken by a girl disappointed in love	1
By a girl, in a fit of passion	1
By a girl, in a fit of jealousy	1
By a girl who had robbed her master's son	1
By a girl, seduced and deserted by a married man	1
By a girl, subject to fits and despondency	1
By pregnant girls, to destroy themselves	5
By a pregnant girl, to procure abortion	1
By a pregnant girl, deserted by her lover, who was suspected to have procured her the poison	1
By a pregnant girl—how or by whom administered not known	1
By a wife, separated from her husband	1
By a young woman, married unhappily, and separated from her husband	1
By a cook-maid, distressed by the death of a friend	1
By an insane mother and two children—administered by the former	3
By five children, to whom it was administered by an insane mother	5
By a man, embarrassed by debt, and disordered in mind and body	1
By men, through reduced circumstances, pecuniary embarrassments, &c.	6
Taken through drunkenness	12
By a farmer and innkeeper, who, having had a handsome legacy left to him, spent it in riotous living—got into debt—and took poison to escape his creditors	1

* So in the original; probably a mistake for "have not."—ED. GAZ.

Through poverty..... .. 3
Through despondency..... 1
In lunacy..... 52
In food, by accident 7
In mistake, by young people, in food prepared for vermin 5
In mistake, by a married woman, who, having mixed it with oatmeal for vermin, was innocently supplied by her husband with food prepared from the mixture 1
By accident, the deceased having tobacco and arsenic loose in the same pocket 1
In mistake for cream of sulphur 1
Administered to a child in mistake for magnesia 1
——— Queen's cordial 1
Taken inadvertently, in various ways..... 3
Administered wilfully 5
How administered not known ... 2
Felo de se.....20
Taken without cause assigned in the Report 36

Opium 42
Overdose, taken by adults in ignorance 11
Overdose, administered to children by mothers and nurses ... 8
Administered to a child in mistake for other medicine 1
Supplied by a deaf druggist for manna, and administered to a child by an ignorant nurse..... 1
Administered to a child, found dead in the Trent, extensively bruised (the poison and the wounds both sufficient to account for death) 1
Taken by a child in ignorance ... 1
Taken through drunkenness..... 2
Through lunacy 9
How administered not known ... 1
Felo de se 2
Taken without cause assigned, &c. 5

Laudanum 133
Administered by mistake 2
——— for antimonial wine 1
——— for paregoric 2
——— for Godfrey's cordial 2
——— for syrup of buckthorn ... 1
——— for tincture of rhubarb ... 4
Sold at a druggist's for antimonial wine—the druggist not bred to his trade, and kept two shop-girls, one of whom (the coroner ascertained) gave twice as much laudanum for a penny as the other 1
Taken by adults as medicine.....11
An overdose, taken by a drunken surgeon..... 1
Taken by mistake for a surgeon's draught 1
Administered to children in mistake 2
Drunk by a child, within whose reach the phial had been left... 1
Given by a child to an infant, to allay coughing in the mother's absence 1
Overdose to infants by mothers and nurses 26
Taken inadvertently 7
Through despondency 4
Through drunkenness 9
Through dissolute conduct 1
Through lunacy, induced by want 2
Through lunacy from various causes 30
Through loss of situation 1
Wilfully administered 2
How administered not known .. 3
Felo de se..... 4
No cause assigned, &c. 14

Cough Syrup 1
Overdose, given by a mother to her child 1

Syrup of Poppies 5
Overdose, administered to children by mothers and nurses 5

Godfrey's Cordial 12
Overdose, administered to children by mothers and nurses 10
Administered to children by mistake for syrup of rhubarb 2

Infant's Mixture (most probably a preparation of Opium) 1
Overdose, given by a mother to her child 1

Morison's pills 1
Taken as a medicine 1

Tartar emetic..... 2
Three drachms, taken to cure ague 1
Overdose, given to an infant 1

Colchicum 3
Overdose, taken for the gout..... 1
Taken as medicine 2

Mixture for vermin 2
Taken by children, within whose reach it was left 2

Hellebore 1
Taken by a "temporary lunatic" 1

Mercury 2
Taken by a "temporary lunatic" 1
Felo de se..... 1

Bichromite of potash 1
Eaten ignorantly by a child 1

Aquafortis 2
Drunk by a child, within whose reach it was left 1
Taken in temporary lunacy 1

Oxalic acid..... 19
Taken by a woman, who had quarrelled with her husband..... 1
By a person of defective intellect 1
Through lunacy 8
Through drunkenness 1
Through want of employment ... 1

By a young woman, on the emigration of her brother..... ... 1
By a child, within whose reach it was left 1
Without cause assigned..... 5
*** It is singular, that nearly the whole of the cases of poisoning by oxalic acid occurred in Middlesex.
Nitrate of silver..... 1
By a child (swallowed percussion caps)..... 1
Castor-oil seeds 1
Taken inadvertently 1
Fungus 4
Eaten for mushrooms..... 4
Rum 1
Ignorantly given to a child for inflammation of the bowels 1
Extract of lead 1
Found in solution by a woman, and given to her child in mistake for ginger-wine 1
Essential oil of almonds 4
Taken in lunacy 2
Without cause assigned 2
Prussic acid and arsenic..... 1
Taken in lunacy 1
Arsenious acid 1
Taken in mistake for a purging powder 1
Acetate of morphine 2
Administered in mistake for other medicine 2
Strychnine (the active principle of Nux Vomica) 2
Taken by a child, to whose father it had been sent as a medicine 1
Lunacy..... 1
Nux vomica 3
Taken in ignorance of its effects 1
Procured by a girl of weak intellect, and given to her father, who had sent her for an emetic 1
Taken without cause assigned ... 1
Wolf's bane 1
Eaten by a child, who found it in his father's garden 1
Black ashes..... 1
Procured for washing, and eaten by a child..... 1
Sulphate of iron (Copperas) 1
Taken to procure abortion 1
A vegetable poison 3
Taken by two children (brothers) 2
By an adult..... 1
Hicrapicra..... 1
An overdose, taken in gin..... 1
Monk's hood 1
Gathered by a poor old man, and eaten in mistake for celery..... 1
Savine 1
Taken to procure abortion... 1
Infusion of hemlock 1
Overdose, taken by a woman ... 1
Laudanum and prussic acid 1
A case of lunacy 1
Potash 1
Taken by a child 1
Medicine 1
Administered to an infant—intended for an adult..... .. 1
Muriate of tin 1
Taken by a child in mistake for vinegar 1
Cantharides 1
An embrocation, containing tincture of cantharides, administered to a child in mistake ... 1
Laudanum and aquafortis 1
Lunacy..... 1
Carburetted hydrogen gas 2
Inhaled during sleep, through an accidental escape of gas..... 2
Belladonna (Deadly Nightshade) 2
Taken by mistake 1
Without cause assigned..... 1
Paregoric elixir 2
Overdose, administered to children 2
Decoction (nature not exactly known) 1
Taken by a pregnant girl, with the supposed intention to procure abortion 1
Nitrous acid, with aloes 1
Taken without cause assigned ... 1
Cayenne pepper, &c. 1
Cayenne pepper, essential oil of Cayenne, and bark, taken in alcohol, as a remedy for the ague 1
Tarberth mineral 1
Taken in mistake 1
Sulphuric acid (vitriol) 32
Swallowed by children, ignorantly 9
———— for ginger-beer 3
Administered to children, for Godfrey's cordial 4
——— a child, for castor oil..... 1
——— for syrup of rhubarb 1
——— for some medicine not named 1
Accidentally sold for Godfrey's cordial, and given as such to a child..... 1
In a drunken fit 1
Through insanity 5
Through family quarrels 1
By a woman, who thought herself forsaken by God 1
Without cause assigned..... 4
Hydrocyanic (prussic) acid 27
Taken by surgeons, depressed in mind by reduced circumstances 3
By a surgeon delirious from scarlet fever 1
By a surgeon, addicted to drinking 1
By a surgeon, in a fit of frenzy... 1
By druggists, deranged 2
By a medical student, affected by over-study 1
By a child, in ignorance..... ... 1
By a gentleman, reduced from affluence to poverty, and deranged 1

Through disappointment in love	1	
Through lunacy	9	
Without cause assigned	6	
Corrosive sublimate		12
Taken incautiously as medicine	1	
By mistake, for cider	1	
In a fit of passion	1	
Through despondency	1	
Through lunacy	5	
Felo de se	2	
Without cause assigned	1.	
Poisons not specified		14
Taken accidentally	2	
By a drunkard, in mistake	1	
Case of miscarriage, the mother having received some noxious drug	1	
Taken without cause assigned	2	
Through lunacy	7	
How administered not known	1	
		543

The total number of deaths by poison, in 1837 and 1838, it will be seen, was 543. Of these 261 were females: 282 males.

The total number of individuals poisoned by opium, or its preparations, was 186.

The deaths of very young children (most of them at the breast), from opium, or its preparations, administered by mothers and nurses, in ignorance of the powerful effects of those substances on infants, were 52.

The deaths of young children from opium or laudanum administered in mistake for other medicine, were 20. In 11 of these cases, the names of the medicines are given, in the place of which opiates were given by mistake.

The very great number of deaths amongst children, resulting from overdoses of opium, or its preparations, and from doses thereof given in mistake for other medicines, cannot fail to excite attention. Deaths of this kind amount nearly to a seventh of the entire number of deaths by poison! The number was 72!

Most of the children poisoned in this way *lost their lives* owing to the ignorance, carelessness, or presumption of *their mothers*. It cannot be too generally known that narcotic and anodyne drugs, powerful though they be in the adult, act with infinitely greater energy upon the more sensitive nervous system of the infant; so that even experienced medical men never administer remedies of this class to the very young, without exerting the utmost caution and making the most accurate calculation. Two drops of laudanum have been known to kill an infant, Nay, we have heard of a case in which *one* drop stole away the life of a new born babe. It is evident that the practical inference to be deduced from the facts represented in the above table is—*that mothers and nurses should never dare to administer medicines of the narcotic kind, except under the immediate direction of the medical attendant.*

The Coroner of Nottingham states, that "Godfrey's Cordial is given to children to a great extent; and that he has no doubt whatever, that many infants are yearly destroyed in that borough, but who, dying off gradually, never come under his notice officially." There can be no doubt of the truth of this assertion. At all events we can say positively that such instances occur elsewhere.

It will be observed, that of the 20 cases in which death resulted from the administering of opium or laudanum by mistake, 11 were instances in which they were given instead of substances more or less resembling them in colour. No details of the mistakes are given in the remaining 9.

In recording one of the 11 cases, Mr. Browne, the Nottingham Coroner, (who has very commendably entered more into detail than most of the Coroners,) says:—"There appeared very great negligence on the part of the person who sold the laudanum. He had not been brought up as a druggist, but had latterly taken to the business, and employed two young girls to attend to his shop, and sell his drugs in his absence. I ascertained, personally, at the shop, that one of them sold twice as much for a penny as the other!"

In 10 of the 11 cases, although the medicines are named instead of which laudanum was administered, we are not told whether the mistake was made by the mother, the medical attendant, or the dispenser.

We find in the returns 4 cases of the administration of savine and other poisonous drugs, with the view of procuring abortion. In 3 of these cases, the mother perished undelivered. In the fourth, the child perished.

We believe the disgusting crime of fœticide would not be so often attempted, if the real effects of savine, and the other drugs made use of, were properly understood. These agents never can induce abortion without placing the woman's life in the greatest danger; and a very frequent result is, that she dies undelivered, having previously suffered the intensest agony.

In 8 cases, poison was taken for the purpose of self-destruction, by young women who had been seduced and were pregnant. Arsenic was the poison made use of in all these instances. It is probable, that besides these 8 cases, several

other of the numerous instances of poisoning by arsenic had been the result of seduction:—but this is not stated in the Returns, which, we repeat, are very far from being full and satisfactory.

The deaths of 8 surgeons are entered, and it is a curious circumstance, that all of these had taken prussic acid. One had taken it with arsenic. Three committed self-destruction in consequence of pecuniary difficulties—one the during delirium of scarlet fever—one during the delirium of mania *a potu*—three during insanity. No instances of poisoning among members of the other learned profession are stated. *Perhaps* this may be owing to an omission in the Returns—but we are rather inclined to consider that they are not defective on this point.

Do not these facts furnish medical men with materials for melancholy reflection? Eight of their brethren have, within a short period, destroyed themselves; whilst no other profession is named on the tables. Three of these, indubitably, were urged to the rash act by embarrassments; and four committed suicide in insanity, which was probably induced by long-continued anxiety and disappointment. In one case only—that of insanity following scarlet fever—could different and natural causes be assigned. May not these instances of self destruction be deemed indications of an overstocked and ill-regulated profession?

These important Returns would furnish us with the means of extending our remarks to a much greater length, but we must—for the present at least—forbear. We cannot, however, conclude, without expressing our approval of a valuable suggestion made by Dr. Frampton, Coroner for Dorsetshire. This gentleman thinks there should be some way of *compelling* those who sell poison to *register* the day and the hour of sale, and the name of the purchaser. Mr. Frampton justly observes that from a want of such compulsory registration, the ends of justice are frequently frustrated.

Great credit is due to Sir Robert Inglis for having called for these Returns. They would, however, be much more useful to medical and political science, had information been required as to the profession, trade, or station in life, of each individual; and if it had also been stated (whenever possible) how the poison had been procured—whether from a druggist, a surgeon, or otherwise—the quantity sold, the age of the dispenser, and whether any precautions had been taken by him to prevent mistakes.

PHYSIOLOGICAL AND ANATOMICAL

OBSERVATIONS ON A BEHEADED CRIMINAL.

By Dr. T. L. W. Bischoff,

Professor at Heidelberg.

Sebastian Zink, a robber and murderer, was executed at Rastadt, July 6th, 1838. My friends and colleagues, Drs. Heermann and Jolly, and myself, resolved to take advantage of this opportunity, and bring several scientific questions nearer to their solution, if possible, and thus, to the best of our powers, make the public profit by an event for which every philanthropist must sorrow.

Notwithstanding what has been already published on the subject, it appeared to us an important problem to ascertain whether consciousness remained in the head, after its separation from the body. There is an accurate and critical memoir on this subject, by Nasse the elder, in his "Physiological and Pathological Investigations," Bonn, 1835, Hft. 1, p. 25. Every question belonging to this point is there examined in the most accurate manner, and as the essay brings together every observation of the kind hitherto made, it has served me as a point from which to consider future experiments, while it saves the necessity of going into the earlier cases. Nearly at the same time, Phöbus, in *Hitzig's Annalen*, Hft. xxxiii. p. 175, and in the Berlin Encyclopædic Dictionary of the Medical Sciences, collected all that was most important on this subject. He there asserts his belief somewhat too hastily, that farther observations of the kind are unnecessary, and therefore should not be allowed. To me it seems that the mode of action of the nervous energy, and its union with the powers of the soul, is far from being so thoroughly understood. In fact, of late years the theory of this subject has taken so different a turn, that new experiments appear to me especially requisite. For, with the exception that human beings can communicate the sensations which they experience, the phenomena from which we believe that we can infer the presence of psychological activity and consciousness in other beings, are for the most part merely motions, which are occasioned by external influences. As these movements seem to be proportioned to the external influences, we believe that they are caused by certain sensations, and that they bear the character of free will and of design, and therefore that they are evidence of psychological energy. But now that we have

recently learned with more exactness the mechanism, so to call it, of the nervous energy, and have thus been made more attentive to the reflex movements, the question is more difficult to answer, and the problem has to be almost entirely worked through again, with reference to the manifestations of psychological energy and animation. For we have convinced ourselves that there are many movements bearing the character of design, and therefore presupposing free-will, where we are yet not justified in assuming a real co-operation of the soul in feeling and willing; but which are rather excited without any affection of the soul, by the transference of the irritation of a nerve conducting to the centre, to a muscular nerve conducting to the periphery. But the question whether a single movement or whole classes of them have this or the other character, is the more difficult to answer, as the same movement may depend on either cause, being at one time psychological, and at another only a reflex movement.

This point is of particular importance in the question concerning the continuance of consciousness in the decollated head. For, in the way in which the majority of experiments have hitherto been performed, it might easily happen that most of the movements perceived in heads just separated, had not this character, but were merely reflex movements. I therefore resolved first of all to avoid the application of all stimuli, from which such a reflected effect might be readily expected, and as much as possible to excite the organs of the senses by those irritants, from which this was less to be feared.

The fatal stroke of the sword took place at thirty-six minutes and a half past nine, and a few moments afterwards we received the head, which was handed to us in the mask which surrounded it, without its having been shaken by a fall. The first step was to free it quickly from its mask, and observe the manner of its separation from the trunk, the hemorrhage, and the expression of the features.

The stroke had succeeded perfectly, penetrating in front between the os hyoides and the larynx, and posteriorly between the fourth and fifth vertebræ, but so that a part of the left oblique process and of the body of the fourth and a part of the oblique process of the fifth vertebræ were cut through. The blood flowed out slowly, but uninterruptedly. The expression of the countenance was that of the most perfect repose; no trace was there of pain or distortion. The eyelids had somewhat sunk; the mouth was shut, but easy to open. The expression of the eyes, too, was perfectly tranquil; neither wild, as given by one of the earlier observers, nor wan and lustreless, but like that of one who is gazing upon the distance. Dr. Heermann, who had visited the criminal for an hour the preceding evening, thought that he saw no alteration of the features, except in the loss of the man's sharp and piercing look, and the pupil being somewhat larger.

I now brought my fingers, and then a bright needle, near the eyes, without touching either of them or the eyelashes. But though this was repeated several times it was not followed by any trace of motion in the eye, or lids, or any of the features. Dr. Heermann standing at his left side now shouted his name into his ear, and the word *Gnade*, (pardon) with the just conviction that this word would be the readiest to act on any remaining consciousness, as from the whole deportment of the criminal up to the last moment before his execution, it was clear that he had always hoped for mercy. But no trace of motion followed. I now held a phial with a strong tincture of assafœtida to his nose, preferring this to ammonia, and the like, because I expected a more unmingled effect upon the nerves of smell from it than from ammonia, which might possibly produce a reflex motion by irritation of the nerves of the mucous membrane. But this experiment likewise had no result. I next put a drop of tincture of colocynth on his tongue, and on this there was a slight protrusion of the tongue, and a slight movement of the jaw. Both occurred three or four times with short intervals, though no alteration or motion was to be perceived in the other features. In order to judge in some measure how much of these movements was to be attributed to the irritation of the nerves of the mucous membrane by the spirit of wine in the tincture, I put a drop of pure spirit on his tongue, on which there was equally a movement of the tongue and jaw. All these experiments were completed in less than a minute after the fatal stroke. It may be asked, whether these slight movements of the tongue and jaw were the result of sensation, and therefore of consciousness; or whether they were reflex movements, depending on the irritation of the nerves of the mucous membrane; or lastly, whether they depended on the irritation of the divided spinal marrow, and were therefore not caused by the tincture of colocynth. To us observers the last seemed the most probable supposition. The continued tranquillity of all the other muscles of the face did not seem to be in favour of these motions being caused by a disagreeable taste.

Reflex phenomena, indeed, occur very extensively in the movements of mastication and deglutition, but much less frequently in irritations which affect the tongue than in those which affect the mucous membrane of the palate, the velum palati and the pharynx. Moreover, I shall soon have to mention, that when the nerves of the mucous membrane of the tongue were actually irritated with the point of a needle, no motion followed. On the other hand, opening and shutting of the mouth are movements which one has had the most frequent opportunity of observing in decapitated beasts, and which certainly depend on violent irritation of the spinal marrow. The tongue, too, must necessarily share in the movements, from the os hyöides having lost the muscles which depress it.

Thus, not a single phenomenon appears to have been present which could lead us to suppose that consciousness still continued; it seemed to have been instantaneously taken away. It is to be remarked, too, that the criminal was not in an unconscious state before the stroke; though, according to Heim, Brand, the Berlin executioner, believed this to be the case in the majority of the ten criminals whom he had executed. Zink, indeed, before his execution, was in an ungovernable and somewhat intoxicated state, suiting the sombre roughness of his whole character; but so far was he from having lost his consciousness, that when the hangman's assistants were putting on his mask, the very moment before the fatal blow, he said to them "you treat one like the flayers."

During life, as well as in the experiments after its termination, he appeared like a man of very little nervous irritability or activity, so that the opposite observations of others cannot be invalidated by this case. Yet I would add, that the negative results of an observer in a frame of mind like that of most persons at such a moment, are in themselves more credible than positive ones; for in the latter, the excited fancy may often act a considerable part, as appeared from the narratives of many who were present at this execution, and who asserted that they had seen wonderful things on similar occasions formerly. It also appears from an accurate criticism of the testimony of other persons in favour of the continuance of consciousness, that there are but few of the experiments made upon the organ of hearing, and upon irritated beasts, which cannot be explained by the supposition of their being reflex motions, or caused by the irritation of the spinal marrow.

After we had made these observations, I immediately performed irritations, in which I expected genuine reflex motions. I touched, therefore, with a needle, the eyelids and lashes, as well as the conjunctiva of the eye; I irritated the mucous membrane of the nose, mouth, and throat, in the expectation of seeing some movement produced; but all in vain; all the muscles remained perfectly tranquil, which was a further proof of the rapid disappearance not only of consciousness, but also of nervous irritability. Even inserting the needle into the divided spinal cord at the end belonging to the head, and touching it with a piece of caustic potash, produced no movement in the head, and yet no more than from two to three minutes had elapsed since decapitation.

We now turned to the trunk, and while Dr. Heermann quickly tied the carotids, from which blood continued to flow in small jets, in order by keeping in the blood to maintain the irritability of the muscles and nerves, I endeavoured by pricking, scratching, and pinching the skin of the soles, toes, and fingers, to excite reflex motions, but in vain. Immediate irritation of the spinal marrow was followed by convulsions in the pectoral muscles, and lifting of the arms. The corpse was now put into a box, and taken with the utmost dispatch into the neighbouring hospital, where every thing was prepared for further experiments. Still it was now a quarter past 10, and therefore 38½ minutes since the beheading.

We next intended to try experiments on the supposed presence of electrical currents in the nerves. For this purpose Dr. Jolly had prepared a Nobili's galvanometer of the most extreme sensibility, which, for example, shows a deviation of the magnetic needle to the amount of 90°, when a copper plate of a quarter of a square inch in superfices is dipped into pure water. I now took the two conducting wires terminating in platinum needles, and plunged one of them into the grey and the other into the white substance of the spinal marrow. But in spite of the repetition of this process there was not the slightest deviation of the magnetic needle; but it must be mentioned that the introduction of the needles did not even cause any convulsions of the muscles. Folchi says that when he tried a similar experiment on the spinal marrow of a decapitated calf, he observed a deviation of the magnetic needle 6° to the W., at each introduction of the needles (compare Froriep's Not., No. 950.); but I have frequently tried it on decapitated dogs without any result. Meantime, Dr. Heermann exposed the median nerve in the upper arm, and I plunged both needles, at the distance of about an inch, into the trunk of the nerve, and endeavoured by

mechanical irritation of the spinal cord to produce convulsions in the arm; but they did not occur, nor any deviation of the magnetic needle. Having a powerful galvanic pile consisting of sixty pair of plates, each of four square inches, which gave me a pretty brisk shock, afforded sparks, and strongly decomposed water, I now directed one pole to the spine, and the other to the hand. Evident but slight convulsions were produced in several muscles of the fore-arm and humerus, namely the supinator longus, the extensor carpi ulnaris longus, and the inner head of the triceps, but no deviation of the magnetic needle. It remained quite motionless, even when I applied the second pole to the nervous trunk itself; nay, even when I applied both poles to the nervous trunk, in such a way that the circle was completed by the nerve and the needles sticking in it; although every time convulsions were excited in the muscles above mentioned. Though nothing can be deduced from this in favour of the hypothesis of electrical currents in the nerves, yet it seems to result that the nerves are remarkably good conductors for electricity, and even better than the metals, as otherwise one cannot see why the magnetic needle did not deviate, if the metal wires had been the better conductors.

Mechanic irritation of the median nerve, pricking, pinching, and even dividing it, now no longer had any effect, while galvanism still excited convulsions.

I now opened the thorax and abdomen, while Dr. Heermann tried some experiments on the irritability of the iris. It was then ten minutes to eleven, and the iris could no longer be made to contract, even when the polar wires of the pile were brought into contact with it after removing the cornea. Yet the pile was so strong that decomposition of the humours of the eye, and development of gas, immediately followed.

No spontaneous movements were to be observed in the thorax or abdomen; and when the galvanic pile was applied in succession to the phrenic and vagus nerves, to the stomach and intestinal canal, to the ureters, the gall-bladder, and the cystic duct, no contractions were produced. Only the right auricle of the heart was made to contract continuously until a quarter past one; and also the other muscles of voluntary motion, in which, however, at 10 minutes to 1 these contractions were hardly perceptible any longer. As the experiments upon the phrenic nerve and nervus vagus were made at 10 minutes past 11, and therefore only 1 hour and 33½ minutes after decapitation, and the convulsions of the muscles of voluntary motion were also slight compared with those described by other observers, what I said before when speaking of the head is confirmed, namely, that the irritability and activity of the nerves in this subject were not very much developed. Meantime, I had found the thoracic duct with some trouble, as the body was very fat, and the duct contained no white fluid, but only a turbid and greyish one. Some of it was taken out, and coagulated as usual, but only a very slight fibrinous coagulum formed upon the rod which stirred it up.

After the chyle I examined the mucous membrane of the trachea and larynx, and had the pleasure of seeing the ciliary motions myself, and being able to show them to the bystanders. They were not visible in the œsophagus, not even in that part of the mucous membrane which covers the posterior side of the annular cartilage.

I then examined the urethra, the vesiculæ seminales, the vas deferens, the epididymis, and the testes. In the urethra there were clear traces of an ejaculation, (as in the case observed by Valentin, *Repertorium* 1, p. 277,) caused, of course, by the violent contraction of all the muscles at the moment of decapitation. In the urethra were several large gelatinous coagula, looking exactly like coagulated fibrin, and a whitish fluid containing numerous seminal animalculæ, though not so numerous as I had observed them in the genital fluid of many animals. In the vesiculæ seminales, which were not very large, there was the same sort of gelatinous mass, and also seminal animalculæ. I found them alive in the whole vas deferens as far as the testes, but not very numerous. I thought that I found them also in the seminal ducts of the testes, but as they were very few, and no longer living, I cannot be sure of it. Moreover, the contents of all the parts just named included several other kinds of little particles, but none of such distinct forms as Valentin gives. They were most probably only particles of epithelium. A clear and transparent fluid was collected by dividing the prostate, but I could not observe any elementary particles in it, except some corpuscules of the blood. I then took great pains in examining the brain. As soon as Dr. Heermann had opened the skull, the vessels were seen to be filled with air, and, moreover, the air had everywhere penetrated between the pia mater and the arachnoid, so that the upper surface of the hemispheres had got a very peculiar appearance. Had the air entered from the spot where the spinal marrow was divided? This is difficult to believe, for, in the spinal marrow as in

the brain, pia mater and arachnoid lie pretty close to one another, and there is no fluid between them to make room for air by its evacuation. Did it enter by laceration of the vessels? This, too, I am unable to suppose. This confirms my view, that the course and form of the arachnoid are not yet rightly made out. Of the microscopic examination of the substance of the brain, I will here merely say, without anticipating farther observations, that after the examination of many dogs' brains not only fresh, but actually warm, I cannot agree with Ehrenberg and Valentin, and that I think the microscopic structure of the brain by no means made out. The varicose tubes I believe to be certainly the effect of pressure; but the matter is not so simple as it is represented by Valentin. Amid the multitude of objects calling for attention I unfortunately omitted to look for ciliary motions in the ventricles. I paid particular attention to the spleen. I found in it those small white points, (the corpuscules of Malpighi) which I have seen only in the spleen of animals of the four classes of vertebrated animals.

Lastly, I examined the stomach and the villi of the small intestines microscopically. In the former it was remarkable that the mucous membrane of the fundus was already almost entirely dissolved; it was four o'clock in the afternoon, and very hot weather; the contents of the stomach were wine and salad, and very sour. The villi of the small intestine were pyramidal in shape and composed of granules. Neither in them, nor in the mucous membrane of the stomach, after I had gently rinsed them in water, could I perceive any epithelium.

No morbid appearance was to be found in the whole body, except an adhesion of the lungs to the parietes of the chest, probably caused by a shot-wound under the third rib: three large shot, quite unaltered, were lying in different places loosely surrounded by cellular substance, under the pleura costalis. The heart, indeed, had a very strong and muscular ventricle, which must be called hypertrophied, even taking into consideration the strength of the whole body.

In spite of having been laboriously and uninterruptedly occupied for more than six hours with the body of this unfortunate man, and that, too, with the assistance of my friends, I feel that many of my observations might have been more accurate. Yet the circumstances are such for each single observer, that it is only from the repeated observation of many that sure results can be obtained, to which the present paper may be a contribution.—*Abridged from Müller's Archiv. Jahrgan* , 1838; *Heft. V.*

[It is satisfactory to think that these skilful experimentalists failed so completely, and that Seb. Zink's earthly troubles were really over at thirty-six minutes and a half past nine. The instinctive belief that when the head was off, the man would die, was more cheering than the modern theory that the head may survive decapitation for some minutes. If this were true, it must be confessed that experiments like those detailed above would be very cruel. Some evidence in favour of this supposition will be found in Dr. Rigby's paper on the Pathology of Decapitation, which contains a number of cases from Nasse's memoir. It is to be found in our 18th volume, p. 21.—TRANS.]

M. DONNÉ ON MILK.

THE following *résumé* is given by the author at the conclusion of his memoir "on Milk," &c.

1. The chemical history of the phenomena which milk presents when left to itself, can be completed only by microscopic observation.

2. Milk may be defined a liquid holding in solution, casein, as the blood contains fibrine, a peculiar sugar and salts; and holding in suspension globules of fatty matter or of butter.

3. The solubility of the milk globules in alcohol and ether, which do not dissolve casein, on the one hand, and on the other, the want of action of the aqueous solution of iodine, which does not colour the milk-globules, but does colour casein (as it does all azotised organised matters) yellow, prove that the casein does not form part of the globules, and that it does not exist in milk in a concrete state.

4. All the milk globules may be retained by the filter, and the filtrated liquid, transparent as water, will deposit casein under the influence of acids; this experiment also proves that the casein is in a state of solution, and moreover that the white colour of milk depends on the fatty matter suspended in the form of very fine globules; milk may therefore be regarded as an emulsion.

5. The first phenomenon which milk left to itself presents, is the ascent of the cream: cream is formed by the milk globules collecting at the upper part, in consequence of their specific gravity; below the cream is the milk properly so called, in which there are however two distinct layers; the upper one whiter than the lower, which is a little greenish, and semi-transparent. These differences of shade depend only on the greater or less quantity of milk globules

contained in the different layers of liquid, which are arranged according to their specific gravity. Cream exists, therefore, in the milk at the moment of its exit from the body, and milk and cream differ only in the proportion of fatty or butyraceous globules which each contains.

6. The second phenomenon observed is the change of milk to the acid state; it is in fact well demonstrated that this fluid, when it comes from the body, is alkaline; gradually the cream thickens, the casein coagulates, gases are disengaged, the smell of *Brie* cheese is perceived, and the microscope exhibits a number of infusory animalcules and vegetables; a real putrefaction in short, is established.

7. It is necessary to distinguish the part which the cream or non-azotised portion and the casein or azotised portion, each takes in this decomposition or fermentation. For this purpose the two elements must be separated by the filter, and it is then observed that the cream rapidly becomes very acid, while the serum, deprived of fatty matter and holding casein in solution, tends to the alkaline or putrid fermention.

8. The infusory vegetables which are produced in this case do not appear till a long time after the milk has passed to the acid state; they cannot, therefore, be regarded as the cause of the fermentation, as the vegetables discovered by M. Cagniard Latour in the liquids undergoing the alcoholic fomentation, are; and as to the infusory animalcules, they exist as well in the alkaline as in the acid portio nof the fermenting milk.

9. The microscopic vegetables of the milk, figured by M. Turpin as resulting from the transformation of the milk globules themselves, are equally developed on the surface of butter, previously melted and treated with ether, and on the surface of milk which has been filtered and entirely freed from globules

10. No experiment can demonstrate the existence of one or of two vesicles in the milk globules: all the facts establish, on the contrary, that they are perfectly homogeneous.

11. The best method of preserving milk is boiling it on a sand-bath in vessels which are afterwards hermetically sealed.

12. The butter resulting from the agglomeration of the fat globules of the milk may be obtained in a vacuum of carbonic acid gas, in hydrogen, &c. It cannot, therefore, be admitted that it is formed under the influence of the air by a combination of oxygen or acidification.

13. There is a constant relation between the secretion of *colostrum* in women before delivery, and the secretion of milk after. Women are, in this respect, divisible into three classes. 1st, Those in whom there is scarcely any secretion of milk to the end of gestation; and in whom there is secreted only a viscid liquid containing scarcely any milk globules, and but few granular bodies; in these the milk after birth is poor, and in small quantity. 2d, Those in whom the milk before birth is more or less abundant, but poor in milk globules, which are small, ill-formed, and often mixed with mucus-globules as well as granular bodies; these characters indicate a greater or less quantity of milk after birth, but that it will be poor and serous. 3d, Those in whom the colostrum is rich, in well formed and full sized milk globules, and mixed with no other substance than the granular bodies: these characters in general announce an abundant supply of rich and good milk after birth.

14. With respect to the influence of age on nurses, it is remarked that among the people of Paris, it is rare to find a good one after thirty, while those in the country are in their full vigour at that age; as to the influence of locality, it appears from the tables of mortality that the mortality of children is least in prosperous provinces, among people who have plenty of cattle, and especially of cows; in this respect Normandy holds the highest rank. The colour of the skin and hair does not appear to have the influence generally attributed to it; among 400 nurses the results were balanced between the brunettes and the blond; but among 9 red-haired women only 5 presented satisfactory qualities. The development of the superficial veins of the breast, and various sensations which women feel during gestation, are unimportant; while the development of the nipple, the brown or at least well-marked colour of the arcola, and a certain firmness of the breasts, accord generally with an abundance of good milk. The external appearances which are most important in this respect, are a certain degree of general plumpness, and a moderate fulness of the breasts.—*Comptes-Rendus*, Sept. 18, 1839.

PROLAPSUS OF THE UTERUS.

Dr. Gruhn, of Reppen, relates the case of a woman, æt. 28, who, when in the fourth month of pregnancy, in consequence of a violent effort, had a prolapsus of the uterus. Gestation nevertheless went on, without any accident, to full time. When Dr. G. saw her, thirty-six hours had elapsed since labour had set in, and twenty-four

since the waters had been discharged. The uterus hung between the patient's thighs; it was six inches long, and eight thick. The vertex of the child presented, and the neck of the uterus was dilated to the size of a two-franc piece. Not being able to obtain a greater dilatation, Dr. G. made an incision three inches in length in one side of the neck of the uterus, and a dead but well developed child was extracted. The delivery of the placenta was attended with very profuse hæmorrhage, which was arrested by injections of cold water. Afterwards the uterus was reduced and every thing went on well. The woman recovered, and notwithstanding the advice of Dr. G., refused to wear a pessary. —*American Journal of Med. Sciences.*

COLLEGE OF PHYSICIANS.

The following gentlemen have been added to the list since last year:—

FELLOWS.

George Gregory .. Weymouth Street.
Frederic Cobb..... St. Helen's Place.
Henry Davies..... Saville Row.
G. Mann Burrows.. Upper Gower Street.
H. Sumner Dyer.. Cambridge Terrace, Regent's Park.
Henry Jeaffreson Finsbury Place South.

LICENTIATES.

Robert Spear ..... Mitre Court, Temple.
John Lee ..... Grafton St., Fitzroy Sq.
Wm. Fitzherbert .. Hanover St., Hanover Sq.
Jas. Thos. Hansard SouthamptonSt.Bloomsb.
William Roxburgh Gloucester Pl., Portm. Sq.
Patrick Black .... Bedford Square.
William Andrews.. Golden Square.
Wm. Holt Yates.... Aldersgate Street.
Patrick S. Fraser..

To the Editor of the Medical Gazette.

Sir,

The recent regulations at the Royal College of Physicians in London having done away with the title of M.D., it is recommended to all gentlemen who belong to that College to have attached to their name the word *Physician*, in order to distinguish them from the unqualified person.

* * * *

Nov. 13, 1839.

ST. THOMAS'S HOSPITAL.

Dr. Roots resigned the office of Physician to St. Thomas's Hospital some weeks ago; we believe on account of his health, he having for some time suffered severely from rheumatism.

Dr. Lister, the Assistant-Physician to the hospital, has succeeded him, and

Dr. Barker has been elected Assistant-Physician in the place of Dr. Lister.

UNIVERSITY OF EDINBURGH.

Dr. James Hamilton has resigned the Chair of Midwifery. The worthy Doctor, though still often known by the cognomen of "Young Hamilton," is considerably above threescore years and ten; and is besides, we regret to learn, in a precarious state of health.

LITERARY ANNOUNCEMENT.

Dr. Humble has in the press, a Geological and Mineralogical Dictionary, including the terms generally used in Botany, Conchology, Comparative Anatomy, Entomology, Zoology, and those other branches of Natural History connected with the study of Geology; in which the words will be deduced from their Originals, and their signification illustrated by quotations from the best authorities.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Nov.* 12, 1839.

Abscess	2	Fever, Scarlet	19
Age and Debility	22	Fever, Typhus	10
Apoplexy	3	Heart, diseased	3
Asthma	8	Inflammation	5
Cancer	1	Bowels & Stomach	1
Childbirth	6	Lungs and Pleura	10
Consumption	41	Influenza	1
Constipation of the Bowels	1	Insanity	3
Convulsions	26	Liver, diseased	1
Croup	1	Measles	8
Dentition	2	Paralysis	1
Diarrhœa	1	Thrush	1
Dropsy	11	Tumor	1
Dropsy in the Brain	5	Unknown Causes	100
Dropsy in the Chest	1	Casualties	13
Fever	8		

Increase of Burials, as compared with the preceding week . . . 107

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Oct.	Thermometer.		Barometer.	
Thursday . 31	from 37 to 41		29·88 to 29·78	
Nov.				
Friday . . 1	39	47	29·69	29·64
Saturday . 2	41	47	29·60	29·52
Sunday . . 3	44	53	29·52	29·53
Monday . . 4	45	53	29·44	29·45
Tuesday . . 5	43	51	29·45	29 62
Wednesday 6	44	50	29·65	29·60

Winds, N.E. and S.W.

Except the afternoon of the 4th, cloudy, with frequent showers of rain.

Rain fallen, ·6875 of an inch.

Charles Henry Adams.

NOTICE.

The letters from Dr. Conolly and Mr. Coles, in answer to Dr. Gregory, shall appear next week.

W. Ogilvy, Printer, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, NOVEMBER 22, 1839.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.
Surgeon to the St. Marylebone Infirmary.

SUPPURATION.

Definition—Different opinions; value of those opinions?—Gulliver's, Gendrin's, Donné's, Andral's—Is a pyogenic membrane necessary?—Suppuration rapidly excited—Symptoms—Pus; its characters, physical, microscopical, chemical.

Suppuration is an operation of the living body, in virtue of which a *sui-generic* fluid termed *pus* is secreted. I use the term *secreted* advisedly, because I do not believe that pus, presenting all its essential characters, is formed in the circulating mass. I do not, however, deny that it may sometimes be absorbed, and carried into the circulation, though this is not proved; nor that it may be secreted and presented upon the inflamed surfaces of the blood-vessels, and be mixed with the blood.

It is interesting, while treating of a subject of such surpassing importance, to glance at the opinions which have been entertained with reference to the production of pus. The speculations of Hippocrates and Galen led them to refer the production of pus to the transformation of the blood; this was the earliest current doctrine, and it prevailed through the middle ages. Hippocrates (De Morbis, lib. i. sect. 12) says—"Quum venula convulsa rupta fuerit, sanguis effusus putrescit ac suppuratur; si verò caro convulsa fuerit aut contusa, sanguinem ex venis sibi ipsi propinquis trahit, atque hic putrescit ac suppuratur." Galen (in Aph. Hippocratis, lib. ii. aphor. 47) says—"Pus ex sanguine ortum habet qui semi-malam (ut quispiam dixerit) habet transmutationem." Boerhaave and many of his followers attributed the formation of pus to a dissolution of the solids, and to the changes which supervene in extravasated blood; Pringle, Gaber, Benjamin Bell, to the putrefaction of serum; Quesnay and Dehaen to modification of *buff* or *coagulable lymph*. Dehaen (De Generatione Puris; pars altera rationis medendi in nosocomio; tome ii. Vindobonæ, 1761) says—"Communis sententia fert pus prægressâ simper inflammatione generari; inflammatione namque in abscessum verti, dûm inflammatus sanguis in finibus vasorum stagnans et tamen à tergò pulsus, suorum vasorum extrema solvit, inque album cum iisdem vertitur pultem; hanc ob rem et in diuturnâ puris excretione oportere ingentem reperiri substantiæ consummationem," &c. Hoffman and Grassot to a melting down of adipose matter; Stewart to the putrefaction of chyle. In 1722, Dr. Simpson, of St. Andrew's, suggested that pus is formed in the capillary vessels by a process analogous to secretion. "If," says he, "any foreign body be introduced between the edges of a wound, and the external air excluded, pus will continue to be discharged as long as you please, so that by this means a kind of new gland is, as it were, produced. According to Thomson, towards 1756 Dehaen propagated a somewhat similar opinion. But the first treatise upon this point of doctrine which was submitted to profound discussion, was the Inaugural Dissertation of Dr. John Morgan, sustained in 1763, intituled "Puopoiesis, sive tentamen medic. de puris confectione." All the principal circumstances of the function are here set forth with precision, and the author sustained with advantage against Dehaen, that inflammation is necessary to the formation

of pus. By Sebald—Justin—Brugmann (1785), the question was considered under all its aspects, and previous hypotheses were submitted to the proof of chemical experiment. Hunter, in developing this doctrine with that rare talent which distinguishes all his works, is regarded as the creator of it. By Chaussier, and particularly by Dupuytren, the subject was profoundly considered, and the opinions of Hunter confirmed. Later in life Dupuytren's ideas on the subject seem to have undergone considerable change. In the article *Abcès* (Dict. de Méd. et Chir. Pratiques), he states that pus is the result of *softening* of the *detritus* of altered tissues mixing itself with the blood which penetrates the part to constitute a pulpy matter, which is gradually converted into pus. These ideas, admitted only by a few persons, come with bad grace from a person who, more than any other, contributed to establish in France the previous doctrine. Gendrin made a connected series of microscopical observations, from which he deduced the following results:—That the globules of blood, altered by the stases which they experience in inflammation, even in the vessels, may be converted into globules of pus, or may escape from the capillaries in the state of pus; but then he stated also, that coagula may be converted into pus; that blood injected into the cellular tissue, and traversed by a seton, is rapidly converted into pus. Kaltenbrunner divides the act into *imperfect* and *perfect*. In the first we perceive small flakes detached from the stagnant points; others arising in the parenchyma itself. If the inflammation lasts long enough, suppuration becomes perfect, many flakes join together, and form grumous agglomerated masses, constituting the elements of pus, in the form of small very undefined corpuscles; they join, form canals, in which the corpuscles oscillate freely. A part of the parenchyma is consumed in keeping up the secretion of pus. Carswell, who accepted too implicitly the experiments of Gendrin, says—"From the very obvious characters of the facts elicited by microscopical observation, no doubt can be left in the mind that the formation of pus is a consequence of a modification of the blood, manifested more especially by a change taking place in the colour, transparency, and bulk of the globules of this fluid, after its circulation has been arrested in the capillaries by inflammation; *that this change in the globules takes place in the capillary vessels.*" "Such is one mode in which pus is formed; that, in fact, which has been likened to the process of secretion. There is, however, another mode which, to a greater or less extent, is perhaps always in operation at the same time with the former, but which, under certain circumstances, is effected alone, and from its not having been properly understood, has created much confusion, and given rise to opinions the most repugnant to the principles of a sound and philosophical pathology; I allude to the formation of pus in the blood under circumstances in which the influence of the capillary system, as exercising a function of secretion, can have no part." He alludes to the change of effused blood into pus; but he also says, he has observed it in the blood which has ceased to circulate in inflamed veins. Again, "that in phlebitis the conversion of the blood into pus can often be most satisfactorily demonstrated. As soon as inflammation of a vein has acquired a certain degree of severity, one of the most remarkable circumstances which attracts our notice is the cord-like hardness of the vessel. The blood has ceased to circulate through it; it has coagulated. At a subsequent period, however, we find that this state of the vessel becomes less conspicuous, and disappears sometimes suddenly, no cord-like swelling or induration being afterwards felt. Now further examination shews that the latter occurrence was the result of the blood having been converted into pus." Further, "from all these facts it must be evident that the capillaries could have no share in the purulent transformation of the blood." Mr. Gulliver says that the result of his examination of the blood of persons suffering from inflammatory fevers and hectic, has been the detection of pus in almost every instance in which there was either extensive suppuration, or great inflammatory swelling, without a visible deposition of pus in any of the textures of the body. "I have detected pus in the blood by examinations very simple, partly chemical, partly by the microscope. Water has a rapid and energetic action on the blood corpuscles; now the globules of pus undergo no change after being long kept in water. Accordingly, if the suspected blood be mixed with water, the blood corpuscles will soon become invisible, and any globules of pus that may be present will subside to the bottom of the vessel, and may be easily seen, and have their character determined, with a good microscope. Ammonia instantly renders the blood corpuscle invisible, while that of pus is acted upon but slowly by the alkali; and the different action of acetic acid on blood and pus is equally remarkable. He relates some instances of pus in the blood, independently of suppuration out of the vessels; this fact seems to be of some im-

portance, for it must be inferred that the pus was not absorbed, but formed in the blood.

We must now inquire whether the opinions to which I have alluded upon the formation of pus are or are not well founded. Are the cases referred to by Mr. Gulliver, of pus being found in the blood of patients dying from inflammatory affections, entitled to be ranked in science as admitted and well established facts? Of this I apprehend, for the following reasons, there is some doubt. If blood be examined while circulating in the transparent parts of certain animals, we see a fluid passing under the field of the microscope, holding in suspension globules of pretty uniform size; these are the blood-globules. *And while the blood is circulating in the human body, no other globules have, so far as I know, been demonstrated*; but if blood be removed from a person in perfect health, and placed under a microscope, a certain number of whitish pus-like globules may soon be observed. In examining frog's blood, Spallanzani discovered two kinds of globules, but the circumstance did not excite much attention. Recently, Wedemeyer made similar observations; but attention was principally directed to the subject by the experiment of Müller. He filtered frog's blood, which contains globules too large to pass through the filter—a circumstance which always happens with the blood of mammifera. When the filtered fluid was examined through the microscope, it was found to contain a large number of globules; these are the "lymph globules" of Spallanzani. The explanation of this phenomenon appears to be the following:—The serum of the blood, while circulating, holds a certain quantity of fibrin in solution; but when removed from the body the serum is no longer capable of maintaining the dissolution of the fibrin; it therefore coagulates, and assumes a more or less perfectly globular appearance. After death, if the blood be examined, these "fibrinous" globules will be found very numerous (Mandl). If blood be taken from the system, and immediately placed under the microscope, few of these globules will be seen; but if the observation be continued, they will appear to start up in all directions. In blood so examined, besides the blood and the "fibrin" globule, others may be observed, much smaller, probably globules of albumen precipitated by the salts of the serum; they are about 1-400th to 1-500th of a millimetre in diameter. If the serum of pus be heated, it will be found to yield similar globules. Probably these small molecules are the same that Sir E. Home referred to in human blood. It is at present uncertain whether they be globules of chyle or of coagulated albumen. The other and larger globules, particularly pointed out in mammifera by Mandl, in a paper read at the Institute, Sept. 25, 1837, and by Magendie and Dr. Davy, are isolated, white, mammellated, as if composed of many smaller bodies. (See fig. 11, *a* and *b*, from Vogel, the former exhibiting them in their natural state, the latter after being acted upon by acetic acid.) Their diameter varies from 1 80th to 1-110th of a millimetre; they are always larger than the ordinary blood globule. These globules, chemically or microscopically examined, would seem to be coagulated fibrin; and Mandl proposed to name them "fibrin" globules. They are, like pus globules, insoluble in water, and they are altogether similar in size, colour, and chemical properties, to the pus globule (figs. 1 and 5, from Gueterbock and Henlé), and the mucus globule (fig. 4, from Gueterbock) to those of the saliva and those of the urine. These are, I apprehend, the globules which Gulliver and others conceived to be the pus globule, but which may be found in every specimen of healthy blood which has ceased to circulate, or which has been a short time removed from the body, and, so far as I know, only then. Whether or not this globule be in all respects identical with that of pus, of mucus, of saliva, and of urine, may admit of possible question; if it be, still the pus globule does not exist in the circulating blood. Even if it were found in the circulating blood, it does not imply that the fluid known as pus does not differ from these globules found in the blood. The essential characters of pus, mucus, saliva, and urine, do not depend upon these globules, which in each case appear similar to the white corpuscles found in the blood; else why do these fluids differ in their nature? The nature and specific character of pus do not clearly depend upon the globules. The globule of variolous matter does not differ from that of syphilis, but in its essence there must be a vast difference. That these globules do not constitute pus is evident upon another circumstance: see the deleterious effects which follow the introduction of even a small quantity of pus into the circulating system. I believe, therefore, that the statements of Mr. Gulliver and others, that the pus globules may be found in the blood in cases of inflammatory fever or suppuration, if they restrict its application to blood either stagnant or removed from the body, is correct; but incorrect as applied to the circulating mass: still I guard myself by assuming the identity of the pus globule with the fibrin globule. To my mind, a still further confirmation that the pus globule

does not exist in the blood, but is held dissolved in the serum, and not separated until it has passed out of the vessels, is the evidence of Brugmann and others, who have observed that pus, at the moment of its secretion, is fluid and transparent; that after its secretion the fluid gives birth to globules, which rapidly increase. This is also the case with milk, mucus, and other secretions.

Is the evidence furnished by Gendrin, of experiments and observations made upon frogs, conclusive, as to the pus globule being a decorticated blood globule, entitled to confidence? I think not; and yet the statement he makes, that he has observed the progress of decortication, is so minute, so circumstantial, that it is difficult to conceive any source of error. He says he has seen the cortex at all periods in the progress of removal, in the vessels of a frog's web: here, on the threshold of inquiry, I feel this difficulty.

It is not clearly proved, that in all animals inflammation is capable of exciting suppurative action: in the higher genera of mammifera the action can be readily excited, but in the lower of them, much irritation may be applied without exciting this secretion; for instance, Gueterbock inserted setons into rabbits without seeing any traces of pus. In birds it can be rarely excited; and this fact, the discovery of which has been referred to comparatively recent observers, was evidently known to Macdonald. In the experiments he made upon the regeneration of bone, he employed many pigeons, and the fact to which we are alluding he speaks of in the following terms:—"Omnia hæc animalia paucis exceptis, convaluerunt; neque in ullo, quod sane mirandum est, ullum suppurationis vestigium invenire potui." Hertwig made a similar observation. Gueterbock made, upon a pigeon, the following experiment, to assure himself whether Hertwig's opinion was correct:—He made an incision through the pectoral muscle, into which he inserted a pea; at the end of four days the wound was still dry, and the pea presented nothing on its surface. Another incision was made, and a ball of red precipitate inserted: at the end of two days the wound was scarcely moist, and the red precipitate was contained in a little sac, having undergone no change. Hertwig even went so far as to use the red-hot iron with no better success. With respect to reptiles, the evidence is unsatisfactory: Gendrin and Kaltenbrunner used frogs, for the purpose of demonstrating the modes in which pus may be found. Emmert never succeeded in exciting purulent secretion in those animals, whatever irritant he employed. Gulliver informed me that he has made a very extensive series of experiments on frogs, for the purpose of exciting suppuration, but had never succeeded: he has observed, when there was loss of substance, that the reparation was effected by means of a "growing up," but no pus was secreted. He informed me further, that when he mentioned his experience on the subject to Müller, he wondered that he had *never* succeeded. This would imply that his belief was that it might happen. Gueterbock's experience is similar to that of Gulliver. Müller's experiments on eels had not succeeded in producing suppuration.

That M. Gendrin may be right in the opinion that white globules do become apparent when the blood has ceased to circulate, is probable, because the fibrin globule in the frog is a very prominent object; but that the blood globule, as seen under the microscope, has been observed to become despoiled of its colouring envelop, and to become immediately *twice as large as it was before it had parted with this envelop*, is what I confess my inability to admit. Accepting the fact of his having observed those white globules in stagnated blood, and believing him to have been unaware of the existence of any other than the blood globule, the explanation which he has given might naturally occur to his mind; and it is always dangerous to observe with a preoccupied mind. But if he mean that these white globules can be observed in blood whose course in the capillaries is *merely relented* (tom. ii. p. 483), then I believe him to be in error.

That blood, having ceased to circulate, may be converted into pus, is maintained by Gendrin on the following evidence:—If we examine with the microscope a portion of cellular tissue, where the naked eye discovers a mixture of bloody serum and pus, we ascertain, first, that at a certain distance from the place where the pus exists, there is only a transparent fluid without globules; a little nearer, a certain number of globules exactly similar to those of the blood are found: as we approach nearer to the point, the globules are changed; by little and little they lose their transparency, and at the point itself they are found perfectly opaque. So, he would say, in this experiment we may establish, *first*, fibrinous globules in the midst of the serum; *second*, a gradual transformation of these fibrinous globules into purulent globules. Again, if we pass a seton through a portion of an artery which is obliterated by coagulated fibrin, this fibrin *suppurates;* it is *softened*, and *gradually converted into pus.* This same conversion is observed around grains of lead or mercury introduced into a portion of an artery previously emptied of the blood it contained. A coagulable matter oblite-

rates the vessel; it is *softened* and *converted into pus around the foreign body*. If we inject a solution of nitrate of silver, or caustic potash, into an artery or a vein, in which the circulation has been momentarily interrupted, and afterwards suffer the blood to return into the part, and retain it with a double ligature, we see the blood at *first coagulated, afterwards discoloured, and progressively changed into pus*. If, after having irritated in different ways the web or mesentery of a frog, we observe with the microscope the modifications which the blood undergoes in the irritated parts, we see the blood at certain points circulating more rapidly, but in other points it is gradually retarded; and at these latter points the eye may follow the changes which the blood globules experience—they wrinkle, disembarrass themselves of their coloured covering, gradually lose their transparency, and arrive at the edges of the solution of continuity, or the point where the irritation is greatest, transformed into pus globules.

That you may impress upon the economy a disposition to suppurative action, is evident. The inoculation of small-pox is good evidence of this fact. That you may, in some very rare instances, find pus in a coagulum, I will admit. That in a small proportion of such cases, inflammatory action has not been detected, is also true; but surely no one would, on that account, deny that it has existed. It is also true that in the great majority of such cases inflammation has been detected; in fact, what an extremely small proportion of persons die without inflammatory action, and these clots are always found after death. I do not, however, admit that a tithe of the cases in which the phenomenon was observed were cases of pus in the clot at all, but simply a softening of the fibrine. In speaking of them, Dr. Carswell says, "the fluid matter of these concretions, so far as my observation goes, *never resemble pure pus; it is a thin grumous grey or reddish-coloured fluid, of a puriform character.*"

That blood injected into our tissues may excite inflammation, is unquestionable; that a coagulum may form in vessels under inflammation, is equally certain; that a seton may develop inflammatory action, when passed through a clot and the living tissues in its vicinity, no one will deny; that the inflammatory action so excited may be suppurative, if the inflammation be sufficiently intense, is clear; that a coagulum, whether in or out of a vessel, may soften and break down, mix with the pus resulting from inflammatory action, and so be ultimately completely discharged in the *form* of pus, I am ready to admit; but I will exhibit the reasons which embolden me to deny that the coagulum *breaks down into or is transformed into pus*. Fortunately the experiments of Gulliver upon the softening of fibrin, throw much light upon this subject. "If (says he) a vein becomes obstructed with coagulated blood or fibrin, which cannot easily be absorbed or organized, in consequence of the very feeble vitality of the patient, the clot may be expected to soften; and it is, accordingly, in such cases that the clot is found softened at the centre. Again, he says, in repeating the experiments of Gendrin, in which a seton was passed through a clot of blood either in or out of the vessels, I could only twice succeed, after numerous trials, in producing any thing like pus in the substance of a coagulum. In these animals, which were greatly reduced from the effects of previous operations, the matter proved to be nothing more than softened fibrin." Again, "when two ligatures were so placed on a vein as to include an inch or two of the column of blood, it took about three hours to coagulate perfectly. In two or three dogs, it lost its colouring matter, becoming whitish, tolerably firm, and shrunken. After a seton or a leaden shot was put into the clot, no appearance of a purulent-like fluid was seen towards the centre, although pus was frequently present between the coagulum and lining membrane of the vessel, and still more often in the cellular coat and neighbouring parts."

The conclusions he draws from numerous observations which he has detailed, are—"that coagulated fibrin, when removed from the body and subjected to a blood heat, begins to soften in about forty hours, assuming the colour and consistency of pus, but easily distinguishable from it by microscopic and chemical examination; that the purulent-like fluid found in the fibrinous clots of the heart and arteries, and so frequently in the veins, is essentially distinct from pus, and analogous to, if not identical with, softened fibrin; that the softening of coagulated fibrin is an elementary pathological condition of frequent occurrence, distinct from suppuration, and constituting a considerable proportion of the cases generally denominated suppurative phlebitis; that I have observed pus mixed in considerable quantity with the pulpy fibrinous matter, and, in two instances, some purulent globules were observed, completely insulated in the centre of a clot from the neighbouring tissues: but in both these cases pus was also detected in the blood; and when it is considered how frequently this contamination exists, it will not appear surprising that the particles of

pus should be found entangled in coagula contained in these vessels."

If Donné's experiments be correct, there might be less difficulty in admitting the probability of this occurrence. He says, if we mix together one part of laudable pus and nine parts of blood, at the moment it is taken from the vein, a clot is formed; but at the end of six, twelve, or twenty-four hours, this clot is liquefied, and if the proportion of pus to the blood be less considerable, the liquefaction occurs sooner. If at the end of six hours it be submitted to the microscope, we see already blood globules which have lost their colour and their regularity, and the next day, in their place, nothing but pus globules are seen. Upon this experiment he rests the following reasoning: — "Pus arises from the blood, and is only a modification of it." By this he explains the rapidity of suppuration and the vast collections of pus which are formed in certain affections. If this experiment be good, of which there is considerable doubt, it would imply that those collections of "pus" in coagula, to which reference has been made, could not be pus; otherwise, how happens it that the clot has not been broken down? They must have come together under the most favourable circumstances for this action; and that they must have existed for more than twenty-four hours, must be evident from the fact that most of the colouring matter has been removed.

With respect to the experiment of injecting blood into the cellular tissue, or the breaking down of a clot in a vein, so much is certain, that inflammatory action is always excited at the part—that pus may be exhaled as a consequence of that action—that the fibrinous matter of the blood, subjected to the heat of the body, after having ceased to circulate, will rapidly soften—that it would mix with the purulent matter secreted around—and that the fluid ejected would have a purulent aspect; but then it is pus largely mixed with softened fibrin.

Andral says, there are cases where during life no symptom of irritation has revealed, that pus is found at a point where we find it after death, and where any actual or antecedent trace of inflammation could not be detected; colour, consistence, every thing, being normal where the molecules of pus are found. It occurs frequently that it is not only at one point that this accumulation of pus, without any appreciable lesion is found, but often at many at the same time. In the cellular and intermuscular tissues, the liver, the spleen, and the lungs, at the same time: each of these organs may contain a single point or be studded with them. If in this case we examine the interior of the vessels, sometimes pus is found mixed with the blood, sometimes no trace of it can be discovered in them. In these same cases, sometimes, no trace of suppuration can be detected elsewhere; sometimes, however, purulent collections in many points, at the same time, are detected after great operations. The question for consideration, is, are these purulent collections the result of absorption? It may be so, when they are found in cases, where not long before death, a considerable purulent collection existed in some part of the economy. As to those cases where similar purulent collections are found without previous evident suppuration—in cases where, for instance, pus is found in a coagulum—we have already disposed of that question.

I believe that no suppuration can happen without inflammatory action. In treating of inflammation, I shewed that inflammation was accompanied by the secretion and exhalation of certain fluids. I believe those secretions, *unless there be rupture of vessels*, are always the serous portion of the blood: once effused the fluid will separate into two parts, a globular portion, and a more fluid portion. The denser part may take the form of lymph, or false membrane or pus; it is in either case globular, and the globules are similar: the impression of the peculiar character of lymph, false membrane, or pus, upon the fluid, is, I apprehend, what may be termed a vital act, depending upon the peculiar nature of the inflammatory action; the effused fluid holding in solution the substance which afterwards constitutes these globules being a constituent part of the blood. Passing through certain parts or tissues of the body, this constituent material of the blood undergoes various modifications: in the one case it is presented as mucus, in another as pus, in another as saliva; in one, the pus of small-pox, in another that of syphilis, in all the globule being uniform. Inflammatory action then excites the effusion of a fluid differing from mucus, saliva, and urine, but possessing certain peculiar characters. Whether or not, in all cases, the presence of an exhaled layer of lymph be necessary for the percolation of this fluid, it is difficult to say; that lymph is usually exhaled before pus, is true; whether that lymph be arranged in the form of a membrane, such as is found in the interior of abscesses, or on the surface of suppurating wounds, is not equally manifest; that the vessels themselves undergo a change of structure in some cases of inflammatory action is clearly shewn: it is certain that the internal tunics of arteries may become spongy, thickened; that the

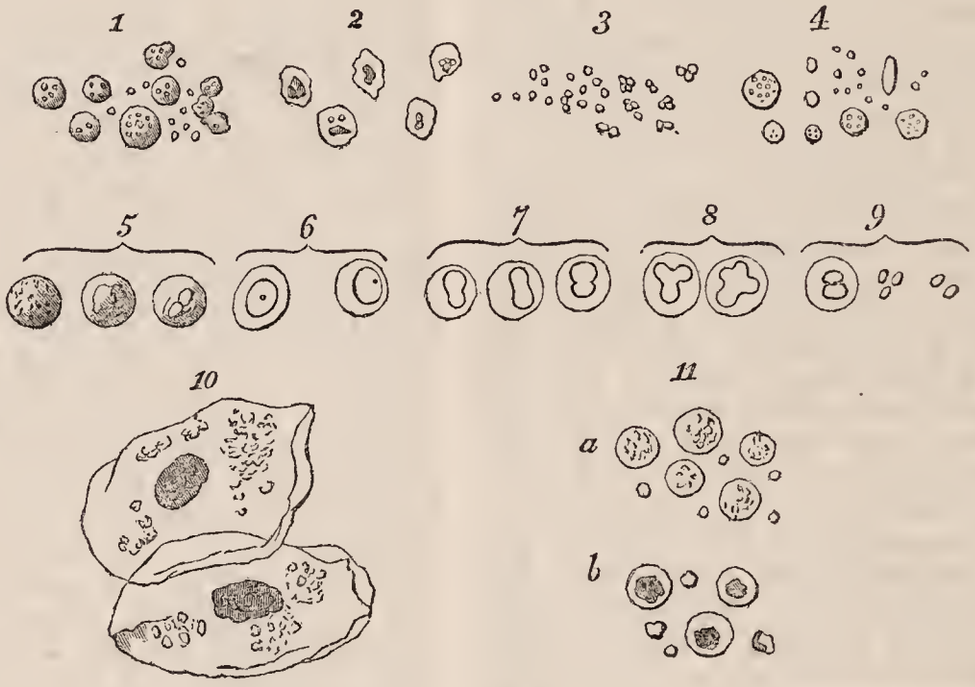
membrane of veins may present a tomentous or villous aspect; but whether or not these or any similar changes in the vascular system be necessary for a purulent formation, is what in the present state of our knowledge cannot be determined. The "new gland" of Dr. Simpson was no doubt the pyogenic membrane of Hunter, Dupuytren, Beclard, and Delpech; this membrane is seen in the interior of abscesses, upon the surface of suppurating wounds, and in fistulous canals. It is said that it is formed by the granulations which themselves result from the development of the cellulo-vascular system of the part, by inflammatory action. Through this membrane the secretion of pus is supposed to take place, and the secretion like all others is effected by the action of certain powerful medicinal substances, change of temperature, mental excitement; in fact, by all mechanical, chemical, and vital agents. There can, however, be no question that although this accidental membrane can usually be demonstrated when a purulent secretion has existed for some time, that it may be also furnished by mucous, serous, fibrous, and cellular tissues. A bougie introduced into the urethra determines this secretion in a few hours. But for those membranes to secrete pus, their organization and their vital powers must be previously modified. Mucous membranes have little change to undergo, because their structure is very similar to the pyogenic tissue, and their secretion not very dissimilar; but the serous, the fibrous, and the cellular tissues, are necessarily considerably modified. It has been maintained by men of great ability, that the secretion of pus could not proceed without the development of this membrane. This is probably a too exclusive opinion; the probability seems to be in favour of the opinion that the secretion of pus precedes the appearance of this membrane, and in many cases where pus is found the existence of this membrane has not been demonstrated.

Upon the evidence I have now laid before you, I rest my opinion that Hunter is borne out in the statement that no suppuration can take place without inflammation: he says, "I shall endeavour to establish as an invaluable fact, that no suppuration takes place which is not preceded by inflammation; that is, no pus is formed but in consequence of it." Such was also the opinion of Beclard.

Suppuration can be very quickly excited by producing inflammatory action. Thus, John Hunter laid open the tunica vaginalis of a young ram, and exposed the testicle. The surface of the testicle was wiped clean, and a piece of talc was laid upon it. The surface almost immediately become more vascular: five minutes after the talc was removed, and examined in a microscope, but no globules could be observed, only a moisture, which appeared to be the serum. Ten minutes afterwards there were irregular masses formed on the talc, some transparent, with determined edges, but no globules; fifteen minutes afterwards nearly the same. At twenty minutes after, there was an appearance of globules. At twenty-five minutes there were globules in clusters; but I could not say exactly what those globules were. At thirty-five minutes the globules more distinct, more diffused and numerous, and so on. Many other similar experiments were made with similar results. For instance, a canula was introduced into "the fleshy part of an ass's thigh at nine in the morning: at seven next morning it was removed and found to contain common pus. From these experiments, he says it would appear that pus was formed coeval with its secretion; but from Mr. Home's experiments it would rather appear that the globules were not formed till some time after secretion, and this sooner or later according to circumstances which we probably do not know. In eight hours after, a blister was applied. The fluid discharged was fully transparent, in nine hours it was less transparent, but free from the appearance of globules; in ten hours the discharge contained globules, which were very small, and few in number; in eleven hours more numerous, but still the fluid did not coagulate in sal ammoniac; in twenty-four hours the fluid was coagulated by sal ammoniae. Upon mucous surfaces "a bougie has excited it in five hours."

The act of suppuration excites in the economy a particular series of symptoms. Many of these are common to inflammation, others are peculiar to itself. John Hunter says, "the sensations arising from a disease generally convey some idea of its nature; the suppurative inflammation gives us as much as possible the idea of simple pain: without having a relation to any other mode of sensation we cannot annex an epithet to it, but it will vary in some degree according to the nature of the parts going into suppuration. The pain of inflammation is increased at the time of the dilating of the arteries, which gives the sensation called throbbing, in which every one can count his own pulse from paying attention merely to the inflamed part; and perhaps this last symptom is one of the best characteristics of this species of inflammation. As it proceeds towards suppuration, the pain is considerably increased; but when suppuration has actually taken place, the pain in some degree

diminishes, and the temperature of the part is lessened." There is a certain period in the inflammation when the suppurative disposition takes place, which is discovered by new symptoms taking place in the constitution, viz. shivering. Rigors from local irritation, attended with the full action and at regular stated times, have all the characters of an intermittent fever, but it may be observed in common: rigors preceding suppuration are not followed by so much heat and sweating as intermittent is. It is an evidence of the constitution sympathizing—of fever being developed. "Some persons," says Hunter, "have supposed that fever was necessary for the operation of suppuration, and therefore that it did not arise from the sympathy of the constitution with a local injury, but as a necessary effect to become a cause of suppuration."



Pus.

Having considered how the fluid called *pus* is formed, we shall now proceed to examine it *physically*, *microscopically*, *chemically*, and *diagnostically*. *Pus* is a yellowish fluid, variable in smell and consistency; sometimes viscous, glutinous; sometimes fluid, sometimes without odour, sometimes fœtid. The apparent variety in its character induced Pearson to establish four varieties, *creamy pus*, *curdy pus*, *serous pus*, *slimy pus*. When very fluid and very fœtid it is termed *ichor*. Secreted on the surface of a healthy ulcer, or a moderately acute abscess, it is called *laudable* or healthy pus. It is then moderately fluid and viscous; when warm has a mawkish smell, which is dissipated by cooling and a sweetish taste. Gueterbock found its specific gravity to be 1·030; Pearson, 1·031 to 1·033, this slight difference depending probably upon the variety. It is, therefore, heavier than the serum of the blood, and lighter than the blood itself, the former having a specific gravity of 1·027 to 1·029, the latter 1·0527 to 1·057. According to Hunter, pus presenting these characters resists putrefaction energetically. This quality is remarked by Donné—by Gueterboek, who says that, in his experiments, pus kept in a closed vessel was perfectly sweet at the end of six days. Gulliver informed me that he has had healthy pus in a window to which the sun had access for six weeks without becoming fetid; and, if carefully washed of all impurities, it will continue sweet for an almost indefinite time. Gueterboek says, that when he has tested healthy pus upon an ulcer, it has yielded an alkaline reaction, and what is singular, that taken from carcinomatous ulcers, wounds connected with necrosis, hospital gangrene, scrofulous ulcers, and syphilitic bubos, presented a like character. Very soon, however, it becomes neuter, and even acid. Such are the ordinary characters of pus. Examined through the microscope, we find pus composed of two parts, one fluid, and a substance floating, but insoluble in the fluid. No filter is capable of completely separating one from the other. Gueterbock says, he has always seen the filtered product—pus mixed with water, present a marked tendency to putrefy. If we examine the portion held in suspension, we find it composed of bodies

of *unequal* volume. Essentially different, therefore, from the blood globule. Thomson believes that Senac first spoke of these globules; but I apprehend the person who first pointed out those of pus and mucus was Gorn, in 1718. Afterwards Hunter demonstrated them, and described them with more care. With the exception of Kaltenbrunner, all authors, until very recently, spoke of only one kind of globule floating in pus; he describes in the blood of frogs, corpuscles and granules, but he says he never met with any other than granules of equal volume in human blood, and protected from atmospheric contact. Gueterbock has always seen globules of different sizes, the larger of which has been described by authors, and though they are more numerous it is certain that the smaller float among them. Gulliver has equally established the existence of the two bodies, the one of which he proposes to call the pus globule, the other the pus molecule; he believes that the molecule is the essential element of the globule, and that the latter may be reduced to the former condition by destroying the involucra by which it is invested. He says, "the pus globule is composed of central molecules, generally three in number, connected together by an external part, which gives shape and size to the whole; that the *molecules* are dense, smooth, and spherical, measuring from 1·10666th to 1·80000th of an inch in diameter; and that they differ from fibrin, and from any part of the human blood corpuscle, in their form, density, indisposition to putrefaction, and complete insolubility in acetic acid; that they are probably of a peculiar nature, and essential to the nature of pus *globule*. That the external portion which surrounds the molecules, so as to complete the pus globule, is analogous to coagulated lymph or fibrin, being rendered translucent or dissolved by sulphuric, sulphurous, oxalic, or acetic acids and the solution in the latter affording a precipitate with ferro-cyanate of potash. The medium diameter of the entire pus globule appeared in the author's millimetre to be something between 1·3000 and 1·2500th of an inch, although he observed that there are so many globules of both larger and smaller size than here indicated, that probably no measurement of the pus globule has ever been given which might not be verified by some one of corresponding magnitude. The *consistency* of pus depends upon the relative proportion of these two parts; if the fluid preponderates, it is thin; if the globules, it is more laudable. The globules are almost round; they differ slightly in form and volume, some being well rounded; a few being irregular, angular, rugous—like mulberries; presenting such an appearance as might be expected from the super-position of the granules or molecules, upon other, and larger ones. The pus globule is always more transparent, paler, and commonly twice as large as those of the blood; Gueterbock found their diameter 0·0004 to 0·0005 of a millimetre, some larger. Gulliver, 1-2500th to 1-3000th of an inch; whilst, according to Weber, those of the blood do not exceed 0·0002. The granules are very much smaller than the globules, usually very inferior to that of the blood globule. Gulliver estimates them from 1-8000th to 1-12,000th of an inch. Gueterbock believed that the pus globule always presents the same form, whether examined in distilled water, sugar and water, albumen, or in the fluid part of pus; but if it remains long in distilled water or in alcohol, it undergoes certain changes; the edges become more transparent, the centre more opaque. Acetic acid dissolves the periphery, leaving the granules or molecules untouched; the involucra are dissolved; the granule resists. When the shell or envelope is dissolved by acetic acid, the granules become very apparent; their diameter does not exceed 0·0001 (Gueterbock), and they hang two or three together, as is shewn in fig. 3. Henle, maintaining his opinion that the fibrin globule is originally a portion of epithelium, such as is shewn at fig. 10, believes that the central nucleus is at first single, as seen at fig. 6; that it afterwards undergoes the successive changes shewn in figs. 7, 8, 9, ultimately acquiring a bilobed or trilobed character, and presenting such appearances as are presented at fig. 5. Gueterbock examined pus taken from a horse, through the microscope, but the globules did not appear similar to those of man. Mandl's observations are similar, but with this difference; he considers the globules mammelonated, two or three very small globules adhering together; but the form is usually spherical; some are lenticular. They do not easily lose their form; he has preserved them for many months with very little change; he believes that the central nuclei pre-exist. In his ideas of the size of the pus globule, he first refers to the admeasurements of Young, 1-3700th of the English inch; Weber, from 1-1500th to 1-3000th of the Paris inch. The greater number, according to Weber, have a diameter of 1-2400th of the Paris inch. Donné believes the diameter to be seldom less than 1-100th of a millimetre, and usually more. Mandl has found them varying between 1-80th, 1-100th, and 1-110th of a millimetre in diameter. In the midst of this variety, the only conclusion to which we

can come is, that there is much diversity in the size of these globules. We can hardly believe that men so practised in microscopical observation as several of those to whom we have alluded are, can have come to such different conclusions with regard to an object which, we are recently assured, whether observed in mammifera or reptiles, is always of uniform size.

In making a *chemical* examination of pus, it has been thought desirable to effect the separation of the more solid from the more fluid part—the globules and granules from the fluid in which they float; but this has not hitherto been found practicable, for however fine the filter employed, the filtered fluid will be found turbid, and containing globules. If a small quantity of pus be carefully washed, so as to isolate the globules from the rest of the fluid, although we shall not often succeed, because pus makes with water an emulsion, and because a portion of the globules pass through the filter, yet in a small number of cases the globules will be fairly precipitated, and the fluid will remain perfectly clear. If we take those globules, well and carefully wash them, pour upon them concentrated acetic acid, and then filter, the envelopes of the globules will be found dissolved in the filter; add ferrocyanate of potash, and a sediment will be formed. What remained neutralized by carbonate of potash was at first turbid; then it precipitated; from whence Gueterbock concluded that the shell or involucrum should be ranged among those substances which Berzelius calls albuminous, and which are precipitated by the ferrocyanate of potash. Acids do not dissolve the molecules which constitute the nuclei of globules. Whether, like the nuclei of the corpuscles of the blood, they are soluble in caustic potash, is undecided; probably they are; in fact this fluid, or a concentrated solution of carbonate of potash, renders the globules of pus more transparent, and less easy to distinguish. At the end of a little time some disappear, and here and there the debris of their envelops, as well as their granules, are distinguished. If filtered pus be heated, flakes appear; alcohol, hydrochloric, and nitric acid, bring about similar coagulation—evidence of the existence of albumen; but the proportion is less than in the serum of the blood. The albumen of pus is not, however, more than that of serum, precipitated by sulphuric æther. This reagent, which Gmelin first employed, and which Müller approved of, suffices, therefore, to distinguish it from white of egg. A precipitate from the remaining fluid may still be obtained by heat; consequently the albumen can have experienced no change.

It would be tedious to pass in review the various means and modes which have been employed in the analysis of pus. Gueterbock has found in 100 parts of pus, water, 86·1; fatty matter, soluble only in boiling alcohol, 1·6; fatty matter and osmazome, soluble in cold alcohol, 4·3; albumen, pyine, globules, and granules of pus, insoluble in alcohol either hot or cold, 7·4; saline matter, 0·8, of which seven parts were soluble in water, namely, much hydrochlorate of soda, and very little phosphate, sulphate, and carbonate of the same substance, hydrochlorate of potash, and hydrochlorate of lime; soluble in nitric acid, one part, namely, phosphate of lime, phosphate of magnesia, carbonate of lime, and some traces of iron.

Presuming these investigations to be correct, there are certain circumstances common to pus and blood; but iron enters more largely into the composition of the blood than into that of pus. Pus, however, yields a substance which is not found in the blood—*pyine*. If this be admitted, it must be evident that pus globules are not the essential elements of pus.

LECTURES

ON

THE PHYSIOLOGY OF THE STOMACH,

Being the Gulstonian Lectures for 1839; *delivered at the Royal College of Physicians in London,*

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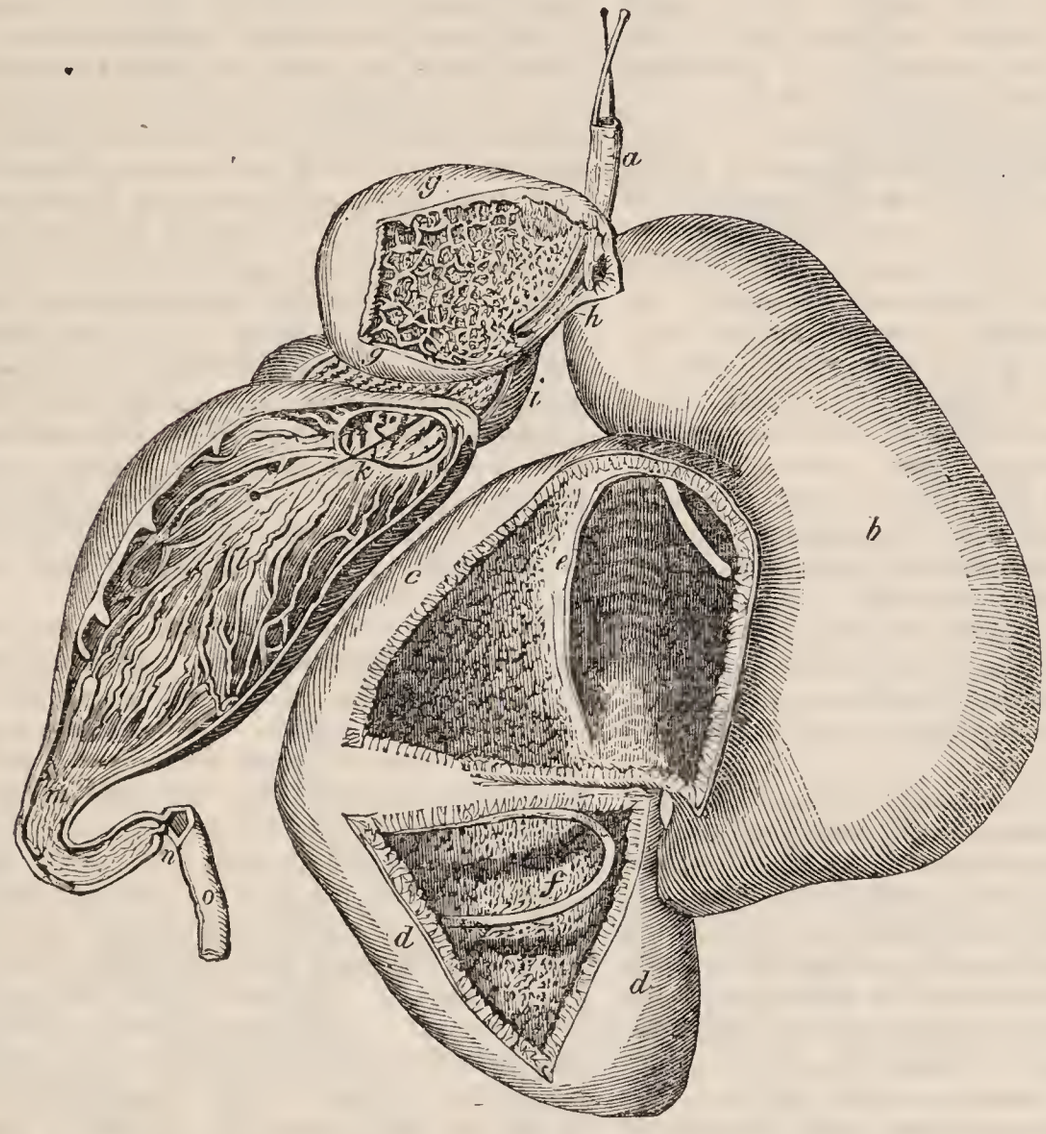
Lecture II.

The stomachs of the large and interesting order of Ruminantia are placed at the opposite extremity of the scale from those of Man and the Carnivora; while the latter exhibit the minimum of development of the stomach, in its anatomical sense, the former have reached the maximum. The complication here, as I have already remarked, is clearly due to the subdivision of the cardiac portion. The fourth, or last stomach of the ox or sheep, is the analogue, both in shape and structure, of the simple carnivorous stomach. The cardiac portion is subdivided into three compartments, which, with the pyloric portion, make the four cavities, of which the ruminant stomach evidently consists. These cavities, it is important to notice,

communicate not only with each other, but three of them communicate with the œsophagus, so that aliment may be made to pass directly from the œsophagus into the first, second, or third stomach, according to circumstances. A striking contrast is thus afforded with the stomach of the porpoise: to reach the fourth cavity of the latter, the food from the œsophagus must pass through the first, second, and third stomachs, whereas in the ruminant it need only enter the third (which it can do without passing into either the first or second), in order to make its way into the fourth stomach.

The varieties in form and structure of the separate cavities of the ruminant stomach afford interesting matter of observation. The largest cavity, usually called the first stomach, or paunch (*rumen*) *b*, fig. 2, constitutes the left or splenic end of the viscus. One or more irregular con-

Fig. 2.



The figure is taken from Carus and Otto's Erlanterungstafeln; it represents the sheep's stomach.

strictions are manifest upon its exterior, one of which, in particular, separates the œsophageal portion from the remainder and extreme left of the compartment. Several folds, or imperfect septa, project into the cavity. The mucous membrane of the paunch is everywhere covered by a thick, dense, and opaque epithelium. A multitude of lamellar processes, or papillæ, cover it over, composed of small folds of the mucous membrane, covered by thick epithelium. These processes vary considerably in shape and size in the different genera of the Ruminant order, as well as in different parts of the paunch. They are entirely absent from the mucous membrane covering the fold which separates the right from the left portion of the paunch.

The second stomach, or *reticulum* (*honeycomb stomach*; *bonnet*, of the French), *g*, fig. 2, situate on the right and in front of the first, is much smaller than it, and differs from it materially likewise in the arrangement of its mucous membrane. It communicates freely with the œsophagus, through the same orifice as the paunch; and it likewise has a large opening of communication with this latter cavity. Its mucous membrane is characterized by

a number of cells developed upon its surface, polygonal in form, inclosed by distinct and prominent walls, the margins of which are serrated. The cellular arrangement is not distinct near the paunch; here the anatomical characters of the membrane exhibit a state of transition, from the folds or papillæ of the first stomach to the inclosed cells of the second.

The third stomach (plicated cavity, *psalterium; feuillet*, of the French) is the smallest of the four cavities, and is found to the right of the second. It communicates with the œsophagus through a groove or imperfect canal, which passes through the second stomach, and which, in fact, may be regarded as a prolongation of the œsophagus to the third stomach. This groove is formed by two strong and muscular bands passing downwards to the right side and in front of the orifice by which the second stomach communicates with the paunch. The groove is open towards the second stomach; but by the contraction of the muscular bands which form its walls, it may be closed in that direction, and thus converted into a true canal, so that fluids or other alimentary substances of small size may readily find their way through it, from the œsophagus to the third stomach. The mucous membrane of this stomach is arranged in longitudinal folds, which, as in the first and second cavities, are covered with a thick epithelium; numerous small triangular papillæ likewise are found on its surface, not unlike those of the second stomach.

The fourth stomach, *k*, fig. 2, (*abomasum; caillette* of the French) communicates by a large orifice with the third, and through the groove with the œsophagus. It constitutes the pyloric portion of the stomach, and is easily distinguished from the others not only by its situation to the right of the other compartments, but likewise, and more particularly, by its elongated shape, tapering to the pylorus. In shape, indeed, it is not unlike the simple carnivorous stomach; nor is this its only point of resemblance to that form of stomach, for its mucous membrane is smooth, soft, and destitute of an epithelium visible to the naked eye.

In the camels, llamas, and dromedaries, the paunch has lost its papillæ; its mucous membrane is therefore smooth on its internal surface; but in two situations numerous large and deep cells are found collected together, each cell, according to Meckel, having a depth of two or three inches, with an equal breadth. The second stomach in those animals is wholly occupied by cells, more numerous but less capacious than those in the paunch. The third stomach is remarkable for its great size, whilst, on the other hand, the narrow dimensions of the fourth cavity are in contrast with its usual size in other ruminants.

In the first and second stomachs of ruminants, but particularly in the paunch, the food undergoes maceration; and probably through the peristaltic action of the muscular wall of the cavity a more complete admixture of it takes place. The food first received into these cavities has been imperfectly or not at all masticated; it is therefore returned, morsel by morsel, from the paunch to the second stomach, and from this latter to the mouth, where it is subjected to further mastication. It would seem the more reasonable doctrine to believe that the food for rumination comes directly from the second stomach, and not from the first, as some suppose. The paunch is too large, and in general too full of food, to allow of its contracting in such a way as to separate small portions in succession from the mass of its contents. On the other hand, the opening of communication between the paunch and second stomach is so free and so dependent, that the contents of the former can readily pass into the latter; and, moreover, from its small size, and its strong muscular coat, the second stomach is well adapted for pushing the food upwards into the œsophagus.

The experiments of Flourens, as well as those of Haubner, have thrown some light on the office of each compartment of the ruminant stomach. When sheep were made to swallow solid food in quantity, as lucerne, carrots, &c., and the animal was opened shortly after, the food was found principally in the paunch, but partly also in the reticulum; and if openings were made in the abdominal parietes, so as to form an artificial anus corresponding to each stomach, the food first swallowed came out at the orifices opposite the first and second stomachs. Food much masticated, and of small bulk, whether before or after rumination, was found to pass into the third stomach in greatest part, although a small portion found its way into the first and second; and liquids passed equally into all the stomachs. It would appear, then, that in order that the food shall pass readily into the first and second stomachs, it must be sufficiently large to dilate the lower part of the œsophagus, when it finds a ready passage into the first and second stomachs. The ruminated food, on the other hand, being so small in bulk, and almost semifluid, cannot dilate the œsophagus, but passes freely into the third stomach, along the groove which leads into that cavity, and thence into the fourth.

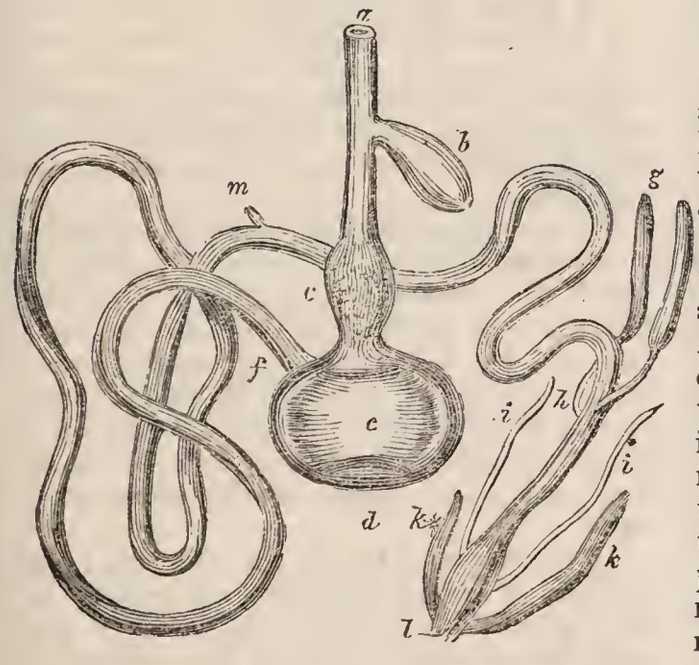
We next proceed to examine the anato-

mical peculiarities in the stomach of Birds.

In some birds there are one or more receipient and macerating cavities, which are merely offsets from or dilatations of the œsophagus, and in which, as in the paunch of the ruminants, the food must remain for a short time before it is introduced into the digesting stomach. These receptacles belong to birds of prey, which swallow large quantities of animal food at a time, and feed at long intervals; or, in a more developed form, to granivorous birds, whose food is of such a nature that it must be taken in large quantity to afford sufficient nutriment. The cavity in question is denominated the *crop*, or *ingluvies*. In the birds of prey, as eagles and vultures, it consists merely in a dilatation of the œsophagus on one side. In the granivorous birds, however, where, as Mr. Owen has remarked, the cavity of the gizzard is very much diminished by the enormous thickness of its muscular coat, the crop is more developed, and takes a more important share in the digestive process.

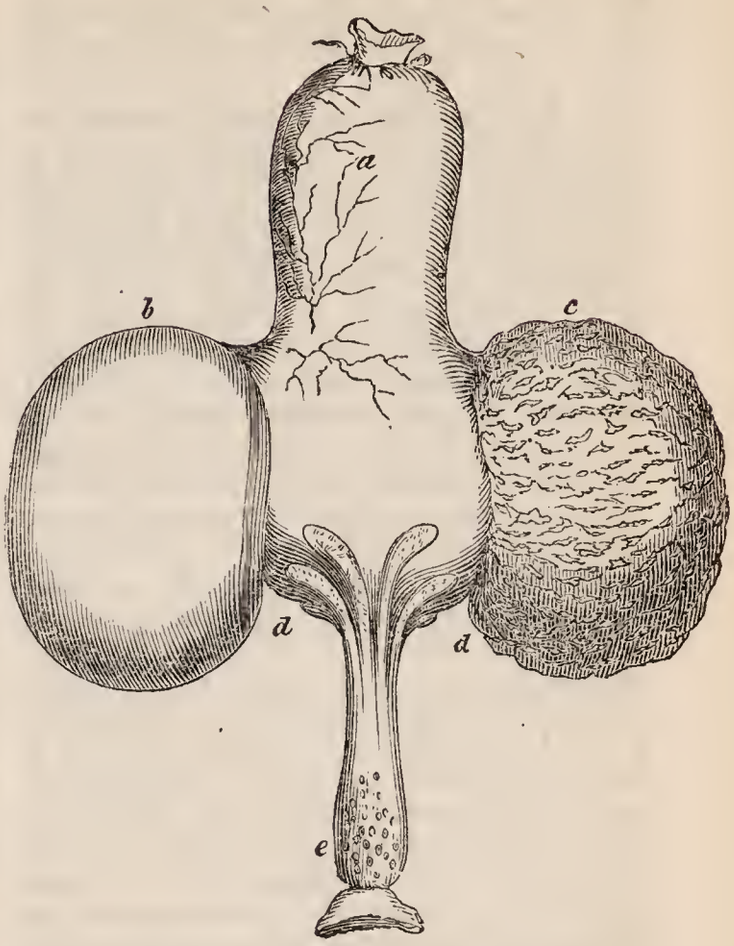
The common fowl and the pigeon afford favourable examples of the development of the crop. In the former, it is merely a single cavity, and the structure of its coats is essentially the same as that of the coats of the æsophagus (fig. 3), several follicles

Fig. 3.



are developed from its mucous coat. The pigeon, however, has two cavities of this kind, one on each side of the æsophagus *b*. *c*. fig. 4). The cavity marked *c*, exhibits the altered state of the membrane, consequent on the secreting function which it takes on while the bird is rearing its young. The change which the food undergoes in the crop, observes Mr. Owen, is well known to bird-fanciers. If a pigeon be allowed to swallow a great quantity of peas, it will swell to such an extent as

Fig. 4.



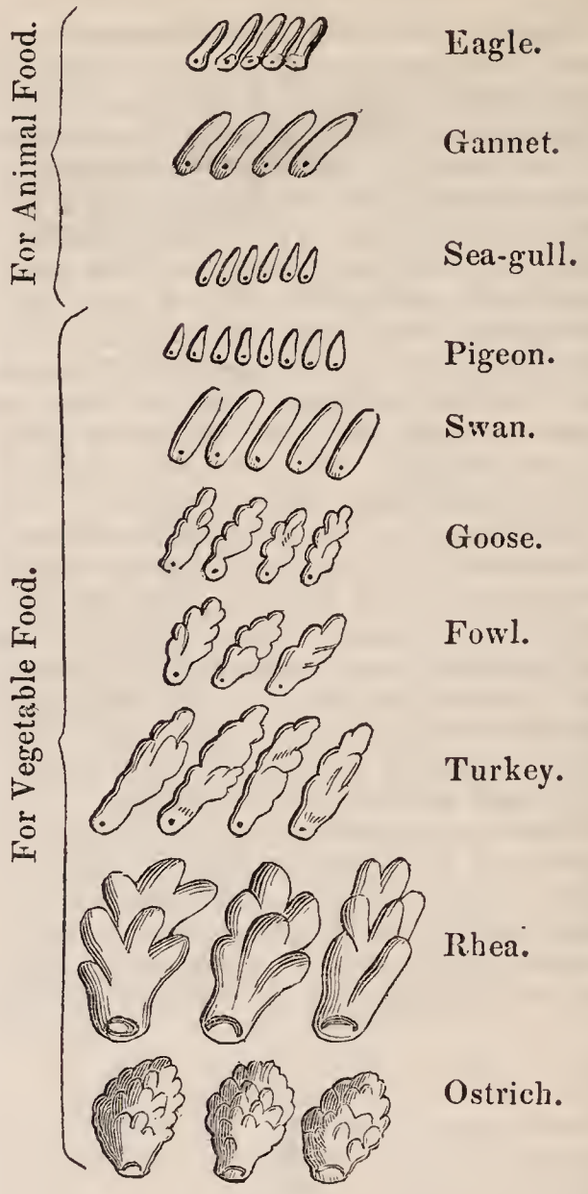
almost to suffocate it. The time during which the food remains in the crop depends upon its nature; in a common fowl animal food will be detained about eight hours, while half the quantity of vegetable substances will remain from sixteen to twenty hours, which is one among many proofs of the greater facility with which animal substances are digested. Mr. Hunter made many interesting observations on the crop of pigeons, which takes on a secreting function during the breeding season, for the purpose of supplying the young pigeons in the callow state with a diet suitable to their tender condition. An abundant secretion, of a milky fluid, of an ash-grey colour, which coagulates with acids and forms curd, is poured out into the crop, and is mixed with the macerating grains. This phenomenon is the nearest approach, in the class of Birds, to the great characteristic function, the presence of whose special apparatus, the mammæ, has afforded the universally recognized title of the higher division of warm-blooded vertebrata; and the analogy of the "pigeon's milk" to the lacteal secretion of the mammalia, has not escaped popular notice*.

The true stomach of birds is complicated by the addition of a powerful muscular apparatus to its pyloric portion, or rather to an offset from its pyloric portion. This muscle, commonly known under the name of gizzard, is destined to supply the place

* Owen, in Cyclopædia of Anat. and Physiol. art. *Aves*.

of the usual masticatory organs of the mouth, and the greatest part of the food must be subjected to the action of the thick fleshy bellies of which the muscle is composed before it reaches the pylorus. The membrane lining the gizzard is covered by a thick and horny cuticle, which sufficiently protects the surface from the friction necessary to the perfect trituration or mastication of the food within it, aided, as it commonly is, by small stones or gravel, which the bird instinctively swallows to facilitate this process. Between the gizzard and the œsophagus, or the crop, when present, the true physiological stomach is situate, not very correctly designated by anatomists *proventriculus*; sometimes also called *bulbus glandulosus*. This cavity corresponds to the cardiac portion of the stomach; in some instances it does not exceed the width of the œsophagus, but in most birds it is distinguished as a dilated portion of that tube; it is, always, however, characterized by a series of follicles opening on the free surface of its mucous membrane. This surface is moist and smooth, and presents no appearance of epithelium visible to the naked eye. When the proventriculus is laid open, the orifices of the follicles are very apparent, varying in size, number, and arrangement, in different genera. In some they are simple follicles, of the same diameter at their blind extremities as at their orifices; whilst in others they are more complex, being wider at their blind extremities than at their orifices, and having a greater or less number of offsets from them, which themselves are but smaller follicles. In the purely carnivorous birds, the follicles are straight and simple; in the granivorous they are larger, more complex, and more numerous. This diversity of form is well seen in fig. 5, taken from Sir E. Home's Comparative Anatomy. The proventriculus, then, must be considered as analogous to the physiological stomach of mammalia: its mucous membrane is smooth, devoid of a thick epithelium, and it is the seat of an abundant secretion, which, as is now generally admitted, is identical with the gastric fluid of the mammiferous stomach. Another distinction between the stomachs of granivorous and zoophagous birds, it may not be uninteresting to mention, is to be found in the degree of development of the gizzard. In the latter, this organ is not so perfectly developed as in the former, for less mastication is required for the digestion of animal food in birds as well as in mammals, than for that of vegetable food: and it is curious to observe, that when a naturally zoophagous bird has been fed for a short time on grain, its gizzard acquires a very considerable increase of size, owing to the increased

Fig. 5.



muscular exertion employed to masticate the grain. This fact was first ascertained by Mr. Hunter, in the case of the sea-gull.

We see, then, that in the class of birds, as well as in mammalia, however complicated the anatomical stomach may be, there is one portion distinguishable from the rest by the absence of manifest epithelium and by a secreting surface, by which those actions are performed which physiologically distinguish the stomach from all other parts of the alimentary canal.

In reptiles and fishes, the stomach is in general of the simple form: a greater or less dilatation of the lower end of the œsophagus, with more or less extent of secreting surface. In the ophidean reptiles, so little difference is there in point of either size or direction between the œsophagus and stomach, that it is impossible to distinguish those portions of the alimentary canal by the ordinary anatomical characters: both are remarkable for their great dilatability. In the frogs, salamanders, and the testudinate reptiles, the stomach is manifestly dilated, and its internal membrane thrown into longitudinal folds; and in some of the latter order the

muscular coat is considerably developed—as the turtle. The stomach of the crocodile is remarkable for its similarity to that of birds, in the development of the muscular coat at the pyloric portion into a distinct digastric gizzard. There are not, however, the gastric follicles which characterize the proventriculus of birds: doubtless the seceting apparatus is arranged here as in the simpler forms of stomach; but as I have not had any opportunity of examining the crocodile stomach, I cannot form any correct opinion on the subject. The chief variety in the stomachs of fishes is as regards its external form; in some there is no dilatation by which the stomach may be distinguished externally from the œsophagus; in others the stomach is oval or globular in form; in others, again, it resembles a retort in shape, with a more or less lengthened cardiac portion, and a rounded pyloric portion. The pyloric fold is in general distinct, and the whole lining membrane of the stomach is smooth, moist, and highly vascular; distinguishable from that of the œsophagus by the absence of the regular longitudinal folds into which the inner membrane of that canal is thrown, which extend quite into the cavity of the stomach.

I have thus given a brief sketch of the anatomical characters of the stomach in the four classes of vertebrated animals. Were I to extend the description to the invertebrated classes, which the limited time allotted to these lectures would not permit me to do, we should find, that in every instance, however numerous the compartments, or however varied the form of the stomach, there is always one portion, of variable extent, which corresponds to the description I have given of a true digesting or physiological stomach.

ON SIPHILIS.

By Herbert Mayo, F.R.S.
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[Continued from page 277.]

[*For the London Medical Gazette.*]

Accidents of primary siphilis—Phimosis—Bubo.—Constitutional lues; its nature and laws—Principles of treatment—Curative agents: mercury; iodide of potassium; sarsaparilla, &c.—Siphilitic affections of the skin grouped under two heads, the non-ulcerative and ulcerative—Appearances of some of the former; roseola, mottling, psoriasis.

Among the accidents of primary siphilis may be included differences in the degree of pain and attendant inflammation.

In virulent phagedæna the pain is extremely severe; in the milder forms, the sore, unless irritated, is free from sensation.

Chancre begins with itching, followed by shooting, aching, or a sense of burning; but, in general, the uneasiness, unless the sore is touched, is so trivial as hardly to excite attention. The pain, of course, bears a proportion to the quantity of inflammation and ulceration; but, nevertheless, in cases intermediate to the extremes which I have described—as in the ulcer spreading from neglect, the surface covered with dark-coloured secretion, the surrounding textures swollen and red, "the foul and angry sore, with ragged edges," spoken of in narrations of cases—the pain is a most variable element.

The special accidents of primary siphilis are two, phimosis and bubo.

Phimosis.—By phimosis is meant any condition of the prepuce which prevents its retraction. So, simple venereal induration of a large portion of the outer prepuce, or indurated chancre of its inner surface (p. 240), produce one form of the complaint.

Those which remain for consideration are of three kinds:—

1. Congenital phimosis, with ulceration within the prepuce.—Congenital phimosis results from the inner surface of the extremity of the prepuce forming an undilatable ring too narrow to allow of its retraction. This does not necessarily prevent venereal infection. A patient whom I attended had had for several months a discharge of matter from within a natural phimosis. During the last few days the part had become rather tumefied; the glans was sore on pressure, and the edge of an ulcer could be distinguished upon it, near the orifice of the urethra. The patient was directed to syringe the part with warm milk and water, to remain in his apartment, and to take aperient medicine. When two days had elapsed, the soreness being increased, I divided the prepuce, and exposed a superficial ulcer, with irregular edges, occupying half the glans. The wound of the prepuce healed before this sore cicatrized. My principal object in dividing the prepuce was to remedy the natural phimosis; the spread of the sore would probably have rendered it afterwards necessary on other grounds.

Sores, not siphilitic, casually formed

upon the inner surface of the extremity of the prepuce, when that part is long, are sometimes prevented healing by the irritation of the urine. After a time the texture round them becomes hard and callous, forming a *ring* like that of natural phimosis, and the sores become exquisitely sensible, and the passage of the urine gives intolerable pain. At the same time there may be no general swelling or inflammation of the prepuce. In this case, the ordinary soothing means failing, it may be necessary to divide the prepuce, so as to allow it to be drawn back, and the sores out of contact of the urine. I not long ago had to divide the prepuce under these circumstances: the patient had been suffering for several weeks previously. I found three shallow ulcers at the place of constriction, with no inflammation round them, but the cellular texture and skin firm as cartilage.

3. The third and common source of venereal phimosis is general inflammatory swelling and tenderness of the prepuce, with discharge from within. If this state of parts has supervened subsequently to the patient coming under treatment, the case is much simplified.

4. If the cause is known to be inflammatory excoriation, or secretion of matter from the surface of the glans and inner prepuce, injections of tepid milk and water, to cleanse the part, and of a saturnine and opiate lotion, with maintenance of the horizontal posture, the part being kept supported, with abstinence in diet and cooling medicines, are the appropriate remedies.

If the cause is chancre, the same local means, with the occasional injection of the calomel and lime-water lotion, are to be adopted, and mercury given.

If phimosis supervenes on virulent phagedæna, the prepuce should be divided, for the reasons explained at page 191.

When inflammatory phimosis with discharge exists, and the patient can give no account of the state of the parts within, there may be room to doubt what course should be pursued. But the operation of dividing the prepuce ought not to be performed if it can be avoided; and it is not immediately necessary unless virulent phagedæna is present; and the latter is not present unless the discharge, in place of being purulent, is thin and ichorous, or sanious and profuse, often highly offensive, with severe pain, and the prepuce swollen, and of a deep red; at one part or another, perhaps, mottled, with lividity. In the latter case the prepuce should immediatcly be laid open; and even in less virulent disease, where phagedænic ulceration is more slowly eating away the glans, the division of the inflamed prepuce, to expose the ulcerating surface for the application of proper remedies, may become necessary. In this minor degree of severity we may suppose that the phimosis will yield enough to allow the glans to be sufficiently seen to judge of its state.

The following case, which was communicated to me by Mr. Druitt, exemplifies severe inflammatory phimosis, not connected with phagedæna, and its proper treatment:—

A confectioner, aged 30, of a full habit and florid complexion, applied for advice with the integuments of the penis greatly swollen, especially the prepuce, the end of which was in colour a dark red. The glans, as much of it as could be seen, was covered with a yellowish white secretion, which came off in flakes. There was abundant purulent secretion, which poured out from below the prepuce when it was pressed; the discharge was principally matter, but the flakes above mentioned, and blood, were mixed with it, and it sometimes came out thinner and sanious. There was constant gnawing pain. He had considerable symptomatic fever, headache, pain in the back, furred tongue, hot skin, frequent hard pulse. He would not submit to be bled, but he consented to go to bed, and took aperient medicine and salines, with antimony, and injected repeatedly tepid decoction of poppies below the foreskin, keeping the part at night in a poultice of camomile flowers. He mended quickly, and was allowed to leave his bed in five days, the swelling, discharge, and soreness, being much lessened, and the pain gone. The cure was completed by means of astringent injections. When, at the expiration of three weeks, the foreskin could be drawn back, the glans was of a bright red. The whole surface had been in a state of inflammatory excoriation. The phimosis had existed some days before his treatment was commenced, and he had taken mercurial pills during three; they were discontinued.

Bubo.—The term bubo denotes a phleg-

monous inflammation of the lymphatic glands of one or more of the surrounding cellular tissue, in a region adjoining the primary sore. When the chancre is on the genitals, the bubo occurs in the groin.

This disorder arises, it is presumed, in some instances, from sympathetic irritation alone, or in the same manner that it is known to follow any accidental sore upon the skin, or gonorrhœa; but in many instances it certainly directly results from the absorption of the siphilitic virus.

There are two periods at which bubo is most liable to supervene. The one is within a few days after the appearance of the ulcer; the other when the ulcer is losing its specific character, and beginning to change to a granulating sore. Intermediately bubo frequently arises; but it is then often traceable to some indirect cause, such as walking or riding, by which the sore may have been chafed. The commencement of a course of mercury has a tendency to bring forward buboes that were before indolent.

The commencement of bubo is generally slow: a gland is felt to be enlarged, of the size, perhaps, of a Spanish nut, and is sore when pressed, or in walking, or upon change of posture; then the surrounding cellular tissue becomes engaged, and there is a firm doughy swelling containing and concealing the gland itself. The integuments are hot, and sore on pressure, but not discoloured. The progress of the complaint is most uncertain; sometimes, with great pain, and aching, and soreness, and burning, and pricking, the swelling runs on to suppurate in a few days; and matter may be felt to exist, while the skin is red for a short and narrow space only. In other cases the tumor remains indolent, while the skin becomes for the extent of two square inches or more of a dull red, and has an elasticity like matter forming; and tumors such after all quietly disperse.

When the swelling in the groin is first perceived, of all things rest is to be strictly observed, and no irritating applications are to be used to the sore. To the tumor itself cold embrocations are at first the best, such as the liquor plumbi subacetatis dilutus, or a weak spirit lotion. When the application of cold is grateful, the part may be bathed with iced water occasionally during the day. In this manner I think I have seen buboes put back that else might have suppurated. Care is to be taken not to chill the patient through such applications, which are to be strictly local, and to be made for a short time only. When warm fomentations are more agreeable to the patient's sensations, they are preferable, and an anodyne poultice in that case may be recommended. Whatever lessens the uneasiness tends to reduce the inflammation; whatever reduces the inflammation lessens the chance of matter forming.

If possible, a bubo should be repelled: even when matter has formed, there is still a chance of its reabsorption; but the means which can be employed to promote it are limited to rest, cold embrocations, and poulticing.

If there is much pain and heat, and the symptoms have progressed rapidly, and the fluctuation is distinct, the bubo had better be opened without delay. If the red surface is of small extent, the opening may be made with a lancet: it had better not be much less than an inch in length, but it should not extend beyond the thinned portion of the integument. If the quantity of inflamed skin is considerable, and it is undermined to some extent, the fluctuation being distinguishable for that extent, and the inflamed integument thin, the bubo should be opened with caustic. For this purpose you rub with a stick of potassa fusa a surface of the size of a sixpence or larger till its vitality is destroyed; a poultice being then applied, in a few hours the abscess opens at the edge of the slough. This method is preferable to puncturing with a lancet, inasmuch as it gets rid at once of a portion of the inflamed and undermined skin, which otherwise would have disappeared more slowly by ulceration, retarding the cure.

When a venereal bubo has been opened, in many instances its progress is favourable: the discharge gradually lessens, the cavity fills up, and the granulations joining those of the edge of the aperture, cicatrization takes place within a few weeks. But in other cases various troublesome consequences will follow. M. Ricord found that inoculation from the matter of venereal buboes will produce chancre; but he curiously observed, that the matter used

must not be the matter that flows out first, (or that from the suppurating cellular tissue), but matter taken from the bottom of the abscess, (that is to say, from the suppurating gland itself): the next day the two are mixed, and the general matter will infect.

This observation tends to establish some remarkable points. In the first place it proves that bubo is sometimes caused by the actual absorption of the siphilitic virus. In the second place, it establishes that such buboes are parts of the disease, and that an open bubo may be a venereal sore. But I was not prepared by it for an additional conclusion, which nevertheless one might have anticipated, and which the circumstances of the following case sufficiently establish. A young man became my patient with indurated chancre on the inner prepuce; he took mercury, and his mouth became sore. The chancre in a fortnight had improved in appearance; but a bubo, which had been threatening some time, now came forward. A month from the commencement of the mercurial course the chancre was a healthy ulcer covered with granulations, and its edge cicatrizing; but the bubo had become more painful, and evidently contained matter, though the skin was reddened to a very small extent. I therefore opened the abscess with a lancet, and with the last quantity of pus which flowed inoculated this patient on the arm. Three days afterwards the point inoculated became a pustule, and then a chancre; at the same time the opening made in the bubo assumed exactly the same character, acquiring a determinate, raised, and inflamed border, and the two sides of the aperture perfectly resembled the surface of a chancre. For this inguinal chancre I have judged it right to continue the mercurial course. We may hence infer that matter formed in a bubo from chancre is not changed in its nature by a course of mercury, but that it remains capable still of infecting. It unavoidably follows, that siphilitic buboes that have suppurated should be opened early; that if opened late by art, or spontaneously, the character they present should be carefully attended to. That if opened late, opening by caustic is preferable to opening with a lancet, as an ulcerated surface probably takes contagion slower than a cut surface. Finally, it is evident that the possibility of this re-infection from the matter preserved in an unopened bubo, throws additional difficulties in the way of determining the efficiency of mercury as a preventive of constitutional lues.

One of the most troublesome consequences of bubo is the formation of fresh suppurations in the adjoining cellular membrane, which open into the original abscess, and, contracting, leave long subcutaneous sinuses, which are often of most tedious recovery. These are to be treated with the mildest applications till the course of mercury is finished, and the patient's health has recovered its tone; then by the injection of stimulant washes and pressure, and, if necessary, by laying them more or less extensively open, they may be healed; but division of such parts is to be shunned, if possible, from the danger of exciting new inflammation of the adjacent cellular tissue.

An open bubo is liable to the supervention of phagedæna; its surface becomes glazed; it is hot and painful; its edge angry, irritable, ulcerated, or sloughing. The relinquishment of mercury, if mercury is being administered, opiate poultices to the part, opium administered internally, with such other remedies as the patient's general condition demand, are the means to be recommended.

If the bubo extends in depth, its situation near the femoral artery renders the disease extremely alarming, and likewise renders any decisive measure, such as cauterizing its surface with nitric acid, impracticable. When it spreads at the edge alone, the ulcer, as in a remarkable case given by Hunter, is liable to be exceedingly unmanageable. Tonics, sarsaparilla, with the iodide of potassium, change of air, and of local applications, are the likeliest means to arrest its spread. After these have been exhausted, recovery of a sudden will perhaps spontaneously and unaccountably take place.

Sometimes a bubo will remain a length of time stationary and indolent, with a thickened, callous, irregular edge. If the application of mercurial lotions, or Peruvian balsam, will not induce action in it, the callous edge should be destroyed by rubbing it with the potassa fusa; then, after poulticing to separate the sloughs, pressure by bandaging will certainly compel it to heal.

The lymphatic vessels of the penis are sometimes inflamed in chancre, and may be felt as firm and tender shreds below the skin. Occasionally little abscesses form in these, the matter from which M. Ricord found capable of communicating chancre.

II. Constitutional Lues.

Constitutional lues is a condition of the system produced through the absorption of the siphilitic virus, and manifested by the invasion of a series of disorders, which, although very dissimilar in different instances, are yet so strictly connected by common origin, occasional coexistence, and obedience to the same remedies, as to form indisputably but one disease.

The secondary symptoms of siphilis are—eruptive and ulcerative complaints of the skin and throat, inflammation of the iris, nodes upon the bones, with other affections of less consequence and of rarer occurrence. When the disorders so enumerated attack the same individual, the order of their appearance is commonly that in which they have been named.

The duration of constitutional lues varies from one to two years; sometimes the disease appears to be cut short after a single attack,—sometimes it persists for several years. During its whole continuance the patient is below his former average of strength and condition. But he is not for the same period exhibiting special symptoms: the disease has remissions, which are often so complete as to lead to the belief that it is cured when it is not; nevertheless, there are instances in which the disease, left to itself, continues indefinitely progressive.

The first attack of secondary symptoms generally takes place between two and three months from the commencement of the primary disease: I have known it, however, happen within three weeks after chancre has been discovered, and I have known it, again, delayed upwards of a year; and in one instance the patient assured me that four years intervened between the secondary disease and any primary venereal complaint. The invasion of constitutional lues is shown in cases where the previous treatment has been mercurial.

The differences in the march of the disease, which I have specified, are not referable to differences in the character of the primary ulcer. They arise from peculiarities in the habit of the persons infected; in other words, from individual predisposition — the same cause which determines the character of the primary disorder, the greater susceptibility towards it of one individual over another, the different susceptibility in the same individual at different periods of his life. The influence of this cause modifies the disease in entire communities, changing its features in the inhabitants of different countries. So in Portugal the disease is milder than in England: and in Dublin, Mr. Carmichael mentions that papular venereal eruption is common, and scaly eruption rare: whereas in London, psoriasis is certainly more frequent than lichen. Lapse of time tends, again, it is presumable, to alter the disposition towards the disease in the same people. Its original great outbreak at the close of the fifteenth century was probably owing to some sudden and general heightening of the susceptibility throughout Europe towards a poison, probably always existing, possibly among the secretions of health. The general modifications which siphilis has undergone, and to which Astruc assigns determinate periods, have been regulated by the same cause. The same cause may produce its disappearance, or again render it more virulent still, and the remedies we now employ against it inert and nugatory.

By the observance of extreme moderation in diet, in bodily exercise, in mental exertion,—by avoidance of every thing calculated to heat, excite, disturb, or even invigorate the system,—constitutional lues may be so kept under that in the mildest cases the continuance of this disease will only be known by the slightest occasional manifestations, requiring no special treatment.

In cases next to the mildest, the secondary symptoms of siphilis require medicine for their control, lest temporary or permanent impairment of organs or disfigurement take place. The principle to be followed in the greater number of such instances is to aim at subduing the present attack. The ravages of siphilis that are read of, and occasionally seen, have arisen from the injudicious attempt forcibly to eradicate the disease when already in its secondary form, mercury being used as the agent. Mercury, however, is essential in the treatment of particular classes of secondary symptoms—of iritis especially; but in the

greater number it is either unnecessary or injurious, and other means are preferable.

Nevertheless, there is room for stating, as a third principle, that in a few instances the disease, in its secondary form, admits of being extinguished by a protracted course of mercury. The instances, however, in which alone I think there has been reason for believing this result to have taken place, have existed a long time, where, notwithstanding occasional remissions, it has been progressively aggravated, and in which mercury has not been given in it for a long period or at all.

Of the remedies for constitutional siphilis, mercury is so far the most important, that is the only one, however rarely it may be right to use it with this object, through which the extinction of constitutional lues can be anticipated; and that besides, as a palliative of the disease, it is one of the most efficacious. The other remedies are exclusively palliative, or are capable only of removing the present attack; nevertheless they are the most proper in the majority of instances, and in the most painful and disfiguring forms of the malady they alone have power to control it.

The remedies that are palliative alone are first the iodide of potassium, then sarsaparilla, the compound decoction, or its infusion in lime-water; and the decoction of smilax aspera: with the three last, liquor potassæ may be joined; then nitric acid in decoction of bark, and the sulphate of quinine with dilute sulphuric acid.

The iodide of potassium is by far the most efficacious among these palliative remedies. It may be given either in pills or in solution. When given in pills, they should be washed down with half a tumbler of barley-water or toast and water, or with three or four ounces of compound decoction of sarsaparilla. Those to whom the taste of the iodide is not nauseating, had better take it already dissolved in the decoction or infusion of sarsaparilla. The iodide of potassium is sometimes efficient in doses of two grains, three times a-day; generally, however, from five to ten grains, or even twenty, are necessary. But unless, from recent trials, the patient knows that the medicine perfectly agrees with him, it is best to begin with a smaller dose. No medicine, perhaps, where it does good, produces amendment so speedily as the iodide of potassium; therefore the propriety of continuing it is never doubtful: it is useless to continue it at the same dose, when no sensible progress is made by the patient; so it is often necessary to increase the dose, and to go on increasing it. I have, in a few cases, been led to administer as much as half a drachm of the iodide with a grain of iodine, three times a-day, having obtained an amendment at each increase of the dose up to this quantity. The evanescent character of the influence of this medicine is most remarkably shewn by the advantage derived from using it with intervals, discontinuing it for a fortnight or a month, and then resuming it. If the disease had become stationary when the iodide was discontinued, and got worse during its intermission, on returning to its use the symptoms seem to disperse miraculously. The principal use of the other palliative remedies which I have named is to fill up, if necessary, the intervals in which the iodide requires to be discontinued, to regain its efficiency, or in cases where it disagrees. They appear to exert a feeble influence of the same kind.

The only sensible effect of the iodide of potassium, where it fully agrees, is an increase in the quantity of urine. It is liable to disagree in the following ways:—With some it disorders the bowels; with others it produces uneasiness at the stomach, and an acrid dryness of the throat; in others headache. Each of these disorders, however, will sometimes admit of being rectified by adding a few drops of laudanum to each dose, aperient medicine being at the same time administered, especially when headache is the symptom to be contended with. I have heard of, but have not seen, depressive effects, analogous to mercurial erithismus, being produced by this medicine. Of course, in that case (as in the others, if the disorder persist), the use of the remedy must be abandoned.

In some cases, mercury and the iodide may be most advantageously combined; a pill of corrosive sublimate and bread being taken, for instance, with each meal, and the iodide of potassium in sarsaparilla intermediately. In one case, where two forms of eruptive disease were simultaneously present, it was evident that the two medicines thus exhibited controled each one of the former;

so that on either remedy being omitted, the corresponding eruption made head.

Having premised these general observations on the nature and treatment of constitutional lues, I shall proceed to describe the various disorders to which it gives origin, ordering my account of them in such a manner as will permit me to group and display together those sets of symptoms which constitute several forms of secondary siphilitic disease.

The first attacks of the disease are commonly made upon the skin and throat simultaneously; and the affections of both parts display, in that case, a corresponding character. But sometimes the skin alone is affected, at other times the throat; and commonly a difference is shaped in the disease by the predominance of either complaint: therefore it is better to describe the two separately, and I shall begin with the skin.

Siphilitic affections of the skin may be practically divided into the non-ulcerative and the ulcerative: the first division includes roscola, mottling, psoriasis, lichen; together with a vesicular eruption, and some soft tubercles which do not ulcerate. The second comprehends lepra, tubercle, ecthyma, rupia. The objection to this arrangement is, that psoriasis occasionally leads to ulceration, and that lepra may commonly be prevented proceeding thus far: nevertheless, the usual tendency of each of the two eruptions in some degree justifies me in separating and placing them as I propose to do. Siphilitic sore throat presents four varieties—excoriation, superficial ulceration, excavated ulcer, sloughing ulcer.

I shall now describe the appearances presented by roseola, mottling, and psoriasis; previously to exemplifying the first and commonest form of secondary siphilis, of which the last named constitutes the prominent feature.

Siphilitic roseola is an efflorescence of a bright red colour, more inclining to a coppery than to purple red, which occasionally appears upon the belly and thighs, as the first attack of constitutional siphilis. It lasts two or three days only, during which it varies in brightness of colour, and, becoming pale, disappears entirely. Sometimes slight symptomatic fever attends it.

Maculata siphilitica, or *mottling*, may be divided into two kinds—simple and leprous.

In the first the skin is mottled, with patches of irregular size and indeterminate outline that are of a brownish-red colour, the one tint or the other predominating. This mottling usually appears first upon the lower part of the abdomen and upon the loins, sometimes extending to the thighs; and it sometimes moves from the loins to the chest. Upon the face and forehead it has a dull leaden hue, and the integument looks thickened or swollen, when it is present.

The term leproid or leprous maculatum, I venture to use for a similar colouring, when the edge of each spot is defined and circular: this is not a very uncommon appearance; I have seen it upon the whole of the trunk and forehead, the circular spots being about a third or two-fifths of an inch in diameter. In one patient, upon the forehead was a large circular patch of this description, one-half of the edge of which was redder and slightly thickened, but perfectly smooth, forming a thin raised semilunar border.

Mottling is probably produced by the same action upon the skin with that which goes on to form psoriasis, or lepra; but it is less in degree; is, with rare exceptions, not elevated; and does not sensibly desquamate.

Psoriasis siphilitica.—The eruption consists of small raised patches of inflamed skin, with lymph effused under the epidermis, which separates in scales. In Willan's plates, under the name of psoriasis guttata, the common appearance of the eruption is very faithfully given. The first appearance of the eruption is as a small raised red point, that spreads, in two or three days, to its full size, which varies from a quarter to a third of an inch in diameter. The figure is sometimes strictly circular, more generally irregular. The elevation is greatest on the middle of the patch, and slopes to the edge. The degree of elevation, and the disposition to throw off scales, is different in different cases, and the character of the eruption varies in different parts. On the head it is often acuminated; on the forehead it is slightly raised at first, but becomes flat as it becomes broader. On the chest and back it is elevated and convex; on the lower part of the abdomen, broad and flat; towards the pubes it has a tendency to run into large flat patches, with cracks, from which serum oozes and dries, forming a slight crust. Upon the glans penis it forms a superficial and

circular sore or patch of excoriation; on the scrotum a raised tubercle; on the sides of the scrotum towards the groin, between the nates, in the axilla, the patch is raised, soft, and sore, and moist with exuding serum. Upon the hand, psoriasis sometimes appears in numerous circular or convex patches, covered with horny cuticle; but more commonly there are but one, two, or three patches, which at first are small and elevated, then spread to a large size, becoming flat, with an irregular outline, looking alternately red and covered with desquamating cuticle, and exhibiting cracks. At the ends of the fingers it forms with acuminated brown patches by the side of the nails, which sometimes are shed; when a patch invades the secreting surface. The disorder occurs in every degree, from a single patch on the hand to an eruption looking not unlike the vesicular stage of small-pox over the whole person. In fading, each patch leaves a light-brown stain, which gradually dies away. Sometimes, but rarely, a bright yellow coppery stain is left, which does not completely disappear for months.

The eruption, as I have described it, whether scarce or abundant, may be called psoriasis guttata sparsa. Sometimes it exists in groups alone, of forty or fifty such patches, covering a space of two or three square inches. Upon the loins and back, four or five such groups may form. This variety may be called psoriasis guttata agminata. It has a tendency to go into ulceration, which the other rarely exhibits.

[To be continued.]

SMALL-POX AND VACCINATION.

DR. CONOLLY IN REPLY TO DR. GREGORY.

To the Editor of the Medical Gazette.

Sir,

Dr. Gregory having confined himself in his first letter to pointing out *one* mistake in the Report of the Vaccination Section of the Provincial Association, which Dr. Baron acknowledged and corrected in the succeeding number of the Medical Gazette, commences his second communication (the tone of which is not to be commended either for its candour or courtesy) by supposing that there *may* be many other errors of the same kind in the Report, not any of which, however, has he pointed out.

Dr. Gregory professes himself to be at a loss to conceive how the results of Mr. Ceely's experiments are to remove prejudices. It is true, as Dr. Baron has observed, these experiments only corroborate the opinions of Jenner; and confirm those of M. Viborg, Professor of the Veterinary College, Copenhagen, of Dr. Waterhouse, of Cambridge, Massachusetts (see Life of Jenner, vol. 1, page 441) and of Dr, Sonderland, of Bremen (see Medical Gazette, for November 5, 1831). That prejudices did, however, still exist, and that the identity of cow-pox and small-pox were not proved to the satisfaction of every one, is well known; in proof of which, I would refer to a letter which appeared in the Medical Gazette of January 7th, 1832, signed George Gregory, in which the writer expresses very strong doubts upon the subject, and says (speaking of the experiments of Dr. Sonderland) "the whole affair seems to me to savour very strongly of a romance." In the same letter he throws blame on Dr. Baron for having claimed for Dr. Jenner priority on a "theorctical question, involved in so much doubt, as the identity of small-pox and cow-pox;" he then proceeds to say, "nothing short of the direct transmission of the disease from man to animals, and from animals back to man, can (in my mind) justify the position that cows are liable to small-pox; and where, may I ask, are such experiments recorded?" Yet now, when such experiments have been undeniably recorded, with admirable inconsistency Dr. Gregory says, "the interesting fact recorded by Dr. Sonderland" (the fact which he had eight years ago treated as romance) "is demonstrative of the truth of the conclusions which have been mentioned." The real truth being, that Mr. Ceely's experiments are so conclusive, that even Dr. Gregory can no longer doubt the identity of the two diseases, which he now insinuates was proved eight years ago by Dr. Sonderland; the fact, however, is, that this important question *did* remain doubtful in the minds of many persons, until the success of Mr. Ceely's experiments proved it to demonstration. It will not do to affect to treat this interesting result lightly, and for the same person to tell us now, that the pathological question is of no importance, and that the establishment of a general penny postage "will do more to secure correct and satisfactory practice, than the solu-

tion of twenty pathological problems," who told us eight years ago that these self-same pathological questions were of "vast extent and importance."

Mr. Ceely was led, I believe, to make his experiments by the statements of Dr. Baron, contained in the first volume of the Life of Jenner; statements which to many minds were demonstrative and convincing. The real value of these experiments (conducted as they were in so careful and skilful a manner) may, I think, be very safely left to the judgment of the profession; they have placed beyond all doubt the truth of opinions originally held and promulgated by Jenner himself, and energetically enforced on all occasions by Dr. Baron, but constantly opposed and denied by Dr. Gregory.

I beg to refer any one who may be unacquainted with these facts to the volumes of the Medical Gazette for the year 1828, more especially to Vol. II. for that year, page 79, where Dr. Gregory distinctly asserts his belief in the impossibility that two persons exist who believe in the common origin of cow-pox and small-pox. Is it not unjust, then, in him now to taunt Dr. Baron with bringing forward Mr. Ceely's experiments, as triumphant proof of all he had before asserted; and telling him that if the former facts were true, those of Mr. Ceely's are but "surplusage?" Surely in all questions of medical science every additional fact is of value.

The communication of your correspondent "Scrutator" bears such evidence of personal pique and ill-will towards Dr. Baron, that it would not be deserving of notice, but that it affords an opportunity of explaining a circumstance that may have excited surprise in the minds of others as well as in that of Scrutator. He charitably supposes that the reason so little is said in the Report of the statement from the Small-Pox Hospital is, that it "was not so favourable to the cause of vaccination as Dr. Baron wished." This supposition is as false as it is uncharitable. The motives which influenced Dr. Baron are well known to me, and were such as do him honour, viz. great delicacy towards Dr. Gregory, and a desire to avoid every thing which might lead to controversy. I know that in the original draft of the Report, the return from the Small-Pox Hospital was noticed at considerable length, and scrutinized; and that upon re-consideration Dr. Baron himself erased this portion of the Report, fearing that it might wound the feelings of Dr. Gregory; anxious to avoid doing so at all times, but more especially at a moment when he was understood to be labouring under the pressure of domestic affliction.

In the statistical table of the Small-Pox Hospital, drawn up by Dr. Gregory, and presented to the Section, 103 persons are reported to have died of small-pox after vaccination, between the years 1820 and 1839. This is a fearful statement; but upon examination we find that in the year 1825, a year in which small-pox was unusually prevalent in London, twelve deaths are reported to have occurred in the Small-Pox Hospital after vaccination. It appears that this alarming statement excited, as soon as it appeared, the attention of the Secretary of State, who desired the National Vaccine Board to inquire into the matter; and to their questions Dr. Gregory replied, (vide Medical and Physical Journal, for May, 1826) that in eleven out of the twelve cases, the characteristic marks of vaccination were wanting, and added, he believed that they might as well not have been vaccinated at all. Notwithstanding, these twelve cases are allowed to figure in the statement presented to the Section, in 1839, as cases of death from small-pox after vaccination; whereas, one of these cases only can with any propriety be so considered; and this is a year when, to use Dr. Gregory's own words, in a communication to the Medical and Physical Journal for February, 1826, "the admissions into the Small-Pox Hospital have been greater than in any year since 1796." It appears that during the year 1825, 147 cases occurred at the hospital after real or presumed vaccination, of whom as before stated 12 died; and two had it subsequently to variolous inoculation, of whom one died. In the statistical table, twelve deaths are again recorded to have occurred in the hospital after vaccination, in 1832; ten, in 1836; and eighteen, in 1838. But I would ask what faith could possibly be placed in returns conducted in such a loose and careless manner as these are proved to have been? Every case of reputed vaccination, and where confessedly the characteristic marks were wanting, being returned as cases of small-pox after genuine vaccination.

Again, Dr. Gregory, in his examination before a Committee in the House of Commons, May 9, 1833, gave in a "Return of the number of cases received into the Small-Pox Hospital, having small-pox subsequent to repeated vaccination, for seven years, ending December 31, 1832." In this return 619 cases are reported as having had small-pox after vaccination during the seven years, of whom forty are reported to have died. This report was given in to the Committee, without the slightest qualification whatever. Yet, when Dr. Gregory was questioned by the Committee upon these cases, it was elicited, that out of the forty who died, seventeen only had good scars, or characteristic marks of previous vaccination; and that several of the forty who died, "died of erysipelas, or laboured under some other disease co-existing with the small-pox!"

Now let it be observed that in the statistical table sent in to the Vaccination Section of the Provincial Association, Dr. Gregory reiterates the statement, with regard to the twelve and the forty cases, without one qualifying observation whatever. Under such circumstances, and after such repeated proofs of inaccuracy, was it possible that the Section could attach much weight to them in their report; especially as the evidence was so completely contradicted from every other quarter?

The whole history of the Small-Pox Hospital, as far as vaccination is concerned, has been most unfortunate, beginning with the mistakes of Dr. Woodville, in 1799, and in my opinion fully justifies the reserve that has been maintained in speaking of it in the report.

Scrutator complains that Dr. Heim's work has been passed over in a cursory manner. The business of the Section was to report upon the answers received to certain questions circulated amongst the practitioners of this country, and it did not, of course, come within the scope of their plan to give much space to continental statements. Besides, many might be of opinion that Dr. Heim's inquiries, elaborate and interesting as they are, had for their object to discover differences between the variolæ of man and the inferior animals, rather than to establish affinities, which is now shewn to be the correct mode of investigation. Independent of which it was not considered to be the duty of the Section to repeat statements which were already in print, unless they were of a very important nature, and established some great principle. It is manifest that a discretionary power must rest somewhere, and the views entertained by the Section on points of this kind are clearly set forth in the preliminary observations of the report, and I think they are correct. (Vide pages 7 and 8 of the Report).

Scrutator expresses his belief that small-pox after small-pox is of very rare occurrence indeed. If he extends his inquiries I think he will change his opinion; many cases are recorded in the answers to the inquiries of the Section; within the last 18 months I have myself known several instances, and one of which was fatal.

Speaking of Dr. Baron, Scrutator says, "we have had enough of his laudation of Jenner year after year; we want now to arrive at the real merits of vaccination." Now, sir, I contend that we *have* arrived at the real merits of vaccination, and that they are fully stated in the Report; and I am one who thinks we can never too much laud that great and good man, and sound philosopher, whose discovery has proved such a blessing to the whole human race—who has never yet had justice done him by his own country, but whom, I doubt not, generations yet unborn will hail as one of the greatest benefactors of mankind.

I have done with Scrutator; if he wishes any further inquiries answered, let him throw aside his mask, and come forward in a manly and generous manner, and I doubt not but he will be met in the same spirit.

I am, sir,
Your very obedient servant,
WILLIAM CONOLLY.

Castleton House, near Cheltenham,
Nov. 11, 1839.

P.S. Nov. 19th.—I have just seen the letter of Dr. Gregory in the last number of the GAZETTE. He seems to think it can be of no importance to your readers what be said at Liverpool upon the subject of the Report; but as every thing he said there is utterly at variance with what he is writing now, he is bound, I think, to explain the apparent inconsistency of his conduct. It is in vain to talk about the "courtesies of society," the "time allotted for discussion," or "the hour appointed for dinner;" these matters had nothing do with it. Courtesy might have induced Dr. Gregory

to remain silent if he did not approve, but could not render it necessary that he should be so insincere as to declare his cordial approval of the Report, and to move or second its adoption, or to indulge in such a strain of eulogy upon Dr. Baron and his labours, as he did before the assembled Association.

MR. COLES IN REPLY TO DR. GREGORY.

To the Editor of the Medical Gazette.

SIR,

I PROBABLY should not have written on the subject of the Vaccination Report, had I been aware that Dr. Conolly had taken up its defence; because he is far more fitted for it by his talent, and official situation as one of the secretaries, and it seems to me needless to overload the question with vindications. I should not now trouble you with additional remarks, did I not heartily dislike the appearance of making a great prelusive flourish, and then taking myself off, and quitting the field of contest altogether: but I beg you to postpone the insertion of this communication if its length interferes with the appearance of Dr. Conolly's promised letter.

Ever since the discovery and application of the prophylactic agency of cow-pox, two opinions respecting its nature have prevailed. A great part both of the medical profession and public have regarded it as a disease distinct from small-pox, and only related to it in the way of an antidote of great, but at the same time undetermined, and therefore doubtful efficacy. By patient and accurate investigation of variolous diseases in man and animals, Dr. Jenner arrived at a different conclusion, and discovered that they were essentially one and the same disease. Dr. Baron amply confirmed the truth of this original discovery in his elaborate historical research into epidemic and epizootic diseases, and, more emphatically than the discoverer, promulgated it as a most important doctrine. This doctrine has received additional confirmation (not to mention other corroborative facts) from the experiments of Dr. Sonderland and Mr. Ceely; the former proving that small-pox effluvia, and the latter that small-pox inoculation, can produce in the cow genuine cow-pox. Each additional proof of a doctrine will tend to increase the number of converts to that doctrine, and diminish the doubts of those who remain unconvinced; and a man may resist all the evidence of the identity of small-pox and cow-pox, up to Ceely's experiments, and be converted by them at last: of which truth Dr. Gregory affords an illustration in his own person. There are medical men at this moment who have but little confidence in vaccination as an antidote, but place great reliance on variolous inoculation; and others who think the security bears a proportion to the amount of local irritation, and practise vaccination in accordance with this theory. Now the demonstration that there is but one disease must tend to remove such prejudices; and would lead to the conviction that the prophylactic powers of vaccination and variolous inoculation are on a par: whilst correct and satisfactory practice would be likely to be secured by the recollection that in small-pox inoculation one pustule affords equal immunity with several. In this way, then, do Mr. Ceely's experiments support the conclusions objected to by Dr. Gregory: but it ought to be remarked that the Report merely asserts that "the right understanding of this question," (viz. the identity of the two diseases) will produce these results, although Dr. Gregory has, with singular alacrity of misstatement, transferred this assertion to Mr. Ceely's experiments.

With respect to Dr. Gregory's reasonings, I do not think it worth while to expend a quantity of paper and type in analysing and refuting them. I would rather say to any one who takes an interest in the controversy, deliberately and carefully read Dr. Gregory's letter again and again; turn up for yourself the places quoted, and mark well the context; and then test Dr. Gregory's conclusions and inferences by the ordinary rules of logic, or the dictates of common sense. If you are not one of those who approve of wrenching fragments of sentences from their contexts and wresting them from their obvious meaning—if you do not confound the distinction between what actually is and what reasonably ought to be—if you do not cavil about demonstration in matters which admit only of cumulative proof—if you are not one who refuses to perceive when an author speaks of the doubts of others and not of his own—or if you are one that will not be beguiled

by a dilemma founded on the palpable misapplication of a word,—then, the best refutation of Dr. Gregory's arguments I can offer you is to ask you carefully to read them. It would take at any time almost the space of a pamphlet, to unravel and expose a page or two of clever mystification; and the labour would be very ill applied, since few, and perhaps none, would care to read any lengthened and minute refutation. No wonder, then, that persons generally shrink from controversies of this kind, particularly when they observe that it commonly happens that not the posessor of substantial truth, but the greatest proficient in refined *Billingsgate*, fares the best in these encounters. I have no wish to trouble you with further observations on this subject. Dr. Conolly will deal with the material topics of Scrutator's letter; and although there are points deserving of rebuke, I would rather leave them to the silent censure of the well-judging.—I am, sir,

Your obedient servant,

HENRY COLES.

Cheltenham, Nov. 11th, 1839.

MEDICAL GAZETTE.

Friday, November 22, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

SUPPLY OF SUBJECTS FOR DISSECTION.

THERE is one subject for our remarks which for some years past has regularly recurred at this season, and has each time brought with it the demand for plainer and stronger expressions of rebuke: we need scarcely say we allude to the supply of bodies for dissection; which under the present system of management is yearly becoming a source of greater annoyance to both teachers and pupils. The statements necessary for the exposure of the faults of the plan by which subjects are supplied, are so plain, and so few are needed to prove its insufficiency and its mischievousness, that it is impossible but that our annual remarks should be chargeable with tautology. Still, as the blows we have already given have not been without effect, we are induced to persevere, and essay, with the same weapons of truth and common sense, used in the same manner, to bring the system to the speedy end which it deserves.

Within the last recess, measures commenced some time since have been urged with increased force to place the business of obtaining subjects under the management of the Council of the College of Surgeons; a body every member of which is either personally or at least professionally deeply interested in securing a supply adequate to the wants of the students. Amongst all the teachers of anatomy, two only have been decided dissentients from this plan, and of these one, we understand, has already withdrawn his active opposition.

The objections urged against the transferring the duty of obtaining the supply from the present Inspector (upon whom, be it remembered, this office was forced, in addition to that to which he was originally appointed) to the College of Surgeons, all centre in the suspicion, that as many of its members either are themselves, or have connections who are, teachers at hospital schools, they might act unfairly towards the private schools, whose interests are not represented in the Council: in other words, that the members of the Council would serve their own interests, by obtaining a good supply for their own schools, and by injuring as far as possible the interests of their opponents.

Now as this opinion has been expressed by those who are on terms of personal and professional intimacy with the members against whom they feel it, it will matter little to urge the improbability that those who are deemed gentlemen, and honourable in private life, and in all their transactions as

medical practitioners, should be guilty of a fraud like this; of such a dirty, dishonest practice, as might justly exclude them from the right of being received into respectable society. This improbability can be of little avail as an argument against the belief of those who can have such suspicions; they would probably screen themselves behind the assertion that men do not regard themselves as privately responsible for their participation in the acts of a public body; and many more such assurances, to which no other reply can ever be made than the old "*Honi soit.*"

It may be of more avail to ask the few who entertain such suspicions, to compare the anticipated evils of this proposed plan with the positive and insuperable evils of the present. Do they now, when it is fairly presumable that no partiality to hospital schools is shown, and when it has even been suspected that the scale is made to preponderate on the opposite side—do they now obtain a satisfactory supply? Are they now able even to procure the requisite subjects for their lectures, or to fulfil the compact into which they entered with their pupils when they received their money? We can positively answer for them—No: there is not one teacher of anatomy in the metropolis whose pupils have not just ground for complaint that they are not receiving the advantages for which their money was paid, and which they were virtually implied, if not verbally promised.

The present scheme is positively bad: we can scarcely imagine it to be worse: to this there is no dissentient, and all will readily agree that there is no hope of amendment while things continue as they are. Neither is there any prospect of remedy in slight modifications of it: the opponents of the plan above proposed may advance suspicions against it, but they do not pretend to put forward any suggestions for the improvement of the present: they can at best only say, they would

> ——— "rather bear those ills they have
> Than fly to others that they know not of."

They are in a strait between fears and feelings.

Let us compare the present and the anticipated evils. The whole source of the present annoyance is an insufficient supply of subjects, and the insufficiency is felt especially by those schools which are not attached to hospitals. It may be assumed, therefore, and we believe (for we would believe nothing to the contrary, without evidence) that there is perfect impartiality in the distribution of those bodies that are consigned to the Inspector. With this impartiality, the private schools are badly, so very badly supplied, that their work is almost at a stand-still: they cannot compete with the schools to which, being attached to hospitals, a certain, though still a very insufficient number of bodies, *must* come. This inequality of supply, too, takes place in the very face of the pretence that the Inspector distributes the bodies according to the number of pupils in each school; in the very face of the long and annoying process which was ordained last year, of registering the name, place of birth, and residence of every medical student in the metropolis. And in the present plan such an inequality must exist: the Governors of hospitals have neither the will nor the right to let the body of any patient to whom they have proffered their charitable assistance, go off their premises except to their burial-ground: if an hospital patient is friendless, the guardians of the place in which he dies—the trustees for the funds that were expended for his benefit while living—must be his friends after death; they are bound to secure him the decent burial of his remains, and they can do this only by preventing his body from passing into the hands of any but those

whom they deem trustworthy, and over whose interests they have a constant and immediate control. So long, therefore, as the supply from common and public sources is small, the hospital-schools *must* have a greater supply than others; and this latter evil, the chief of those dreaded from the adoption of the new plan of giving to the College of Surgeons the office of procuring subjects, now exists in full force.

Whatever system of distribution therefore is adopted, and however anxious the Inspector may be to give the private schools advantages equal to those of the hospitals, it is clear that nothing can be done for them so long as the public supply is thus limited: the Inspector can only give them in proportion to his own receipts. The only chance that the private teachers have of placing themselves on a level with their more fortunate opponents, is to adopt any measure by which a supply might be obtained so plentiful that there should be no place for quarrelling. If we may be allowed the expression, there will never be a sufficiency of subjects till there is a superfluity;—there will never be an equality of distribution, or contentment, or fair play, till all obtain as many as they want or can fairly use. Such a supply (we say it from some experience) London is fully capable of yielding, and ought to be made to afford; but such a supply, for reasons which it would be annoying and unnecessary to repeat, never will be obtained so long as the present system continues.

The plan by which the supply may be improved is sufficiently simple and plain. There may still be a Government Inspector, (and in the discharge of this part of his functions none can be less offensive to the schools than the present,) whose duty it should be merely to see all the provisions of the Act properly complied with;—to see to the regular and decent reception, and the burial within the allotted term, of all the subjects that are dissected. He should have, in short, only those duties to which he is appointed by Government, under the express enactments of the Anatomy Bill, and thus neither he nor any of his friends could have just cause of complaint. But with respect to his superadded office of obtaining, or rather of not obtaining, a supply of subjects, that should be entirely removed: without mentioning one personal objection, there are fifty reasons why a servant of the Government is unlikely to succeed in such an office; he is himself not sufficiently interested in the cause, and to those with whom he has to deal, nothing can be more offensive than the tone of authority which any emissary from Government can scarcely avoid assuming.

The obtaining of subjects should be placed in the hands of those who are personally interested in getting them; and if the Anatomical Teachers could be brought to agree, they would themselves be better fitted for the work than any whom they can request or depute to undertake it for them; but the winds may as well be expected to blow all in the same direction, as such conflicting interests to be made to coincide in a common work. If any thing be less promising of success than the present plan, it is that which some have imagined might be effected by a union of teachers; in fact, the present mismanagement is the offspring of the failure of such a scheme attempted at the first introduction of the Bill.

As far, therefore, as we can see, the only means left is to place the matter in the hands of the College of Surgeons, or some similar public board, who would engage to obtain an adequate supply to be fairly distributed among the schools. We need not point out how intimately the College, in these days of competition, is interested in sustaining their

reputation. Nor would they, we imagine, omit the nccessary provision of rewarding their agents aeeording to the success of their work, paying them a eertain sum per body—a plan which, were it adopted even now, would have, we are inclined to think, a marvellous influence in stimulating some persons' energies, and whieh can alone secure any work of the kind to be well done.

If we must again recur to the suspicions that partiality would be shewn by the Counеil to their own friends, what, we would ask, is the objection on this score that might not be urged with equal justice now? What are the present proteetions against partiality? The Inspector's personal character; and is not that of eaeh member of the College quite as respeetable? The Inspector's books, which are open to public examination; and would not those of the College be open too, and be kept with at least as much aceuraey and fairness? And further, if a eause of complaint of any kind did arise, from whom is redress most easy to be obtained, and whieh is most easy of access and most responsible? Why the College, ten times over. There is not an anatomical teacher who does not know that the present Inspector is virtually totally irresponsible; that he can set at nought all their complaints, and in his snug safe birth can laugh at all their distresses, so long as his friends remain in power; and that he eould do this though all the faults of which the teaehers aeeuse him were distinctly proved against him. He is as fixed as his own prineiple of inertia, and his faults are irremediable. The College of Surgeons, on the other hand, has shewn itself far more tender of its reputation, and eould not safely expose itself to eharges whieh he can bear with impunity; so that admitting (though this must be for mere argument's sake), that in every other respeet they and the Inspector were equally ill adapted to the work, his irresponsibility and want of personal interest in success would be quite sufficient to prove the latter least fit for it.

We shall here leave the subject for the present, in the hope that this will be the last time we shall need to consider the matter, except to congratulate our readers on some improvement.

A PEERAGE REFUSED.

At the late creation of peers in France, the name of M. Double was deeided on as that of one fit to be raised to the dignity in question. The offer was then made to him, on condition that he should renounec the exereise of his profession! To this proposal M. Double refused to eonsent, not choosing to purchase the honour at so dear a priee; and we cannot but remark, that the spirit evineed by the Freneh government on this occasion is very different from that whieh actuated Napoleon, when he eonstituted Cabanis, Berthollet, and Fourcroy, peers of the empire.

BÖHM ON THE MORBID CHANGES IN CHOLERA.

The following analysis of Dr. Böhm's important investigations in cholera, is given by Henle, in his Retrospeet of the Progress of Pathology:—

In the contents of the intestines of cholera patients, Böhm has discovered the debris of the epithelium of the mucous membrane of the digestive canal; and he thence refers the phenomena of the disease to a morbidly aceelerated process of desquamation from the membrane, which he has accurately traeed through its several stages. The affeetion of the internal surface of the digestive canal is not equal in its several parts; the stomach suffers little, and the large intestines least of all: in the small intestine, which is for the most part attaeked throughout its whole length, the desquamation is the greater the nearer the part is to the cœcal extremity, at

which it appears to commence, or at least to proceed most rapidly. At the upper part of the intestines one usually sees, even with the naked eye, limited and isolated portions, which are distinguished by a whitish colour, and a looser velvety aspect: on these the first step towards the separation of the cuticle is observable. The villi appear swollen and elongated, and the epithelium seems split into its elementary ; parts the cells which I (Henle) have described as cylindri mucosi. Here and there greater cracks soon form ; and the pieces thus separated, consisting of a greater or less number of cylinders, come off in fragments ; the villi are thus exposed, and they are seen to be only here and there covered by a remnant of epithelium. At last the villi are completely uncovered, and they appear beset with a number of dark points, which Böhm regards as fossulæ, in which the apices of the cylinders of epithelium were fixed. (I think they are rather the nuclei of cells, which, perhaps, are now seen in the proper tissue of the mucous membrane, in unusual abundance, for the reproduction of the epithelium). But besides this immediate exfoliation, the desquamation takes place also in larger pieces, so that the epithelial coverings of the villi separate from the mucous membrane, but remaining connected together are swollen into hollow sacculi. By passing a fine instrument lightly over the surface of the membrane when in this state, one can remove the upper halves of the sheaths of epithelium, which lie only loosely like cupolas on the villi, and then the villi appear projecting out of the lower portions of their epithelial sheaths, as if out of wide tubes. The same process which may be thus observed on the villi, occurs also in their interstices, and whole lamellæ of the epithelium may be separated, which present on one side a series of prolongations in the form of villi, and on the other surface the openings which lead into those prolongations.

After the separation of the cuticle, and when a raw surface remains, the destruction goes on in the very substance of the mucous membrane. The villi become thinner and weaker ; by a kind of maceration their swollen free extremities split up, and assume a fibrous appearance, by the increase of which they are gradually cleft to their bases. The intestine thus affected in irregularly scattered spots, looks like an old hide from which the hair is in part worn off. The extremest degree of destruction is found at the end of the ileum, where the Peyerian glands perish, and the mucous membrane is converted into a cracked and broken-up surface. But the whole process is effected with such rapidity, that patients who in the morning complained of at most an uneasy moving of the intestines, and who die at noon, already present at their post mortem examination a considerable destruction of the mucous membrane.

It is the fragments of the epithelium which, mixed with the effused fluids, form the contents of the intestines. If the latter remain for a certain time at rest in a glass, their microscopic constituents will sink to the bottom. The contents of the intestines appear milky, when the quantity of the secretion is considerable in proportion to that of the elements of the epithelium, and the latter are very minutely divided ; they are pus-like or creamy when, on the contrary, the quantity of fluid is small in proportion to that of their solid constituents; flocculent when the epithelium cells are still connected in considerable masses; rice-water-like when similar flocculi float in smaller numbers in a turbid fluid; gruel-like when larger portions of epithelium, some of a white and others of a greyish green colour, are mixed with one another, and connected by a scanty secretion, into a mass of a pulpy consistence. The contents are adherent when the cuticle has not yet completely separated. This adhering layer has been taken for effused plastic lymph ; but that it is not so, is proved by its microscopic examination.

Mucous matter within the intestines is rare ; it is produced when the elements of the epithelium are dissolved in the intestines, and the more mucous the substance, the less evident are the outlines of the epithelium cylinders.

In the fluid of the large intestines the cuticle of the small intestines appears to be dissolved, for from the colon downwards scarcely any of its fragments can be formed, and in the patient's evacuations they are still more rare. The bilious colour of the contents of the intestines depends in like manner chiefly on the particles of the epithelium, which become tinged with bile. The secretion of bile is suspended at the beginning of the disease, but it is only in the most acute cases that death ensues before it has again commenced ; most of those who are attacked die at a time when the bile has again diffused itself over more or less of the surface of the small intestines. If death ensues after a nervous reaction, or by debility, then the bile usually appears in a great excess. The hepatic ducts are for the most part empty and dry ; but when compressed a small quantity of clear yellow substance proceeds from them, which

in like manner consists chiefly of their epithelial covering.

Böhm hence concludes that the liver is always affected, and that it takes part in the pathological action of the intestines. But at such a time after death as the examination of the bodies must take place, the epithelium may be pressed out of all the gland-ducts with but slight force, and this fact, therefore, does not appear to me sufficient to prove disease of the liver. That the bile ducts should be dry, while the intestines abound with watery effusion, is rather an argument for the two organs being in opposite conditions, and the arrest of the secretion of bile, like that of all the other watery secretions, can depend only on the blood losing the chief part of its serum by the oozing of the latter into the intestine.

Vomiting of bile is rare, and a favourable symptom. More commonly there is found in the matter that is vomited a dark almost black slimy substance, which, in the post-mortem examinations, is also found firmly adhering to the wrinkles of the stomach. Böhm considers that this is bilious matter, peculiarly altered by the disease, and, perhaps, occasionally secreted by the stomach instead of the liver. It is turned reddish brown by nitric acid, and in caustic potash dissolves into a green fluid, just like bile; but so does the colouring matter of blood. Blood also, when it comes in contact with the gastric juice, is converted into a black tar-like substance, and consequently when blood is poured into the digestive canal generally, it will have the blackish appearance, such as Böhm describes, only in the stomach. I have, therefore, no doubt that this is blood, which is effused in consequence of rupture of the vessels or destruction of the mucous membrane on the surface of the stomach, more especially as blood is effused in cholera in other forms and under various circumstances.

The intestinal evacuations of cholera patients are in general transparent, and only rarely, in the first stages, somewhat coloured with bile. They are distinguished by white and often very large flocculi, which must not be confounded with those which the intestines contain after death. The evacuated flocculi consist of very fine and long semi-transparent threads, of an elastic consistence; they sometimes enclose mechanically small crystals, and it is therefore probable that they are formed by the coagulation of some substance. From his description and drawings of them it seems to me in the highest degree probable that these flocculi are coagula of fibrin; and it may be fairly supposed that they form immediately from the effused serum.

A similar creamy matter to that which is found in the intestine occurs also in the pelvis of the kidney, the ureters, and the bladder, and is evacuated with the urine, when on returning health its secretion is restored. This also consists of fragments of the epithelium, from different parts of the urinary passages.

Coincidently with the epithelial covering of the villi, that of the Lieberkuhnian glands also exfoliates; it protrudes from them in the form of little tubules, and fills up the interspaces between the villi in the surface of the intestine.

The alterations of the solitary and Peyerian glands in cholera, result from two different processes, of which the first has its seat in the surface of the mucous membrane, and the second in the cellular tissue below it. The mucous surface of the glands is destroyed, the little capsules ulcerate out, open, and disappear to their extreme border. Their cavities thus form little fossulæ, and the surface becomes net-like. At the same time the tissue beneath them is filled by a white plastic exudation, and is thus swollen; but this change never reaches to such an extent in cholera as in typhus abdominalis. A third form of alteration in the Peyerian glands consists in the surface over them becoming covered with a number of tortuous folds, lying close by one another; in general, however, this occurs only in young subjects, and it is explicable by the aspect of the Peyerian glands in the child. The folds, which are then normal, become at a later period again visible by the thickening and swelling of the surface. The Brunnerian glands are also elevated, by the effusion into the cellular tissue beneath them, so that they sometimes seem as if they were set on stems, projecting far beyond the level of the mucous membrane.

Böhm has abstained from all conjectures on the nature of the process which he has thus accurately followed in all its phenomena. But I find that the expression he employs of "an excessive desquamation" gives rise to misunderstanding. One might certainly, among the morbid processes on the skin, call pityriasis an excessive desquamation, because in it an excess of cuticle is formed, and an excess cast off; but we should not call by that name the separation of the cuticle from the cutis by a blister, so as to leave a raw surface behind. But the process by which the epithelium of the intestines is removed has the greatest analogy to the formation of vesications, and Böhm has himself, in many places, compared the one to the other. The cause of desquamation is a mechanical and passive separation of the cuticle by the exudation, and the exuda-

tion is the essential part of the disease. This may be produced in two ways; either by a primary general alteration of the blood, by which it becomes thinner; or by a local stagnation and change of it by a process which we name inflammation. The first is improbable, because the process is limited to the intestinal canal, although the inner surface of the lungs, and of many other organs, is not less delicately formed than it. For the second view, the symptoms of the disease and other morbid appearances, which Böhm found after death, are all favourable; as, for instance, the injection of the vessels which is constantly coincident with the desquamation, the tinging of the whole substance of the villi with blood, the presence of fibrinous coagula in the effused fluid, and the exudation of plastic lymph on the outer surface of the mucous membrane, in the region of the Brunnerian and Peyerian glands. All the secondary symptoms of cholera are explained by the great loss of serum, which takes place so rapidly from the walls of the intestines, from the alteration of the blood thereby produced, and from the extended affection of the nerves of the internal surfaces. These circumstances do not act differently from a burn, which is attended with blisters over the whole surface of the body. —*Müller's Archiv.*, Hft. iv. 1839, p. xli.

ST. THOMAS'S HOSPITAL.

We were mistaken in supposing that the resignation of Dr. Roots, which we alluded to last week, had any thing to do with his health, which, we are happy to learn, has long been quite re-established. His retirement, we are informed, was caused solely by the press of his private engagements.

DEATH OF DR. HAMILTON.

Dr. Hamilton, whose illness we announced last week, died on the 14th instant, at his house in St. Andrew's Square, Edinburgh. He had been for a great number of years Professor of Midwifery, and was the last of a generation now completely gone by. He was a very animated lecturer, and, we believe, an energetic practitioner, retaining to the last the utmost vivacity in the maintenance of his opinions, as some papers published only last year, in the pages of this journal, will sufficiently demonstrate.

We have already heard of various candidates, both in Edinburgh and London, who are anxious to succeed him.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Oct. 31, 1839.

William Smith, Horncastle, Lincolnshire.—John Onion, Birmingham.—R. W. Foster, Todmorden, near Halifax, Yorkshire.—H. A. P Robertson, Bristol.—John Kitching, Kingston upon Hull.—W. G. Goodridge, Shirminster Newton.—Richard Taylor, Wigan, Lancashire.—Edward Rayner, Lincoln.—Charles Jones.—J. G. Porter.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Nov.* 19, 1839.

Abscess	1	Fever, Intermittent, or Ague	1
Age and Debility	32	Fever, Typhus	2
Apoplexy	6	Hooping Cough	3
Asthma	2	Inflammation	13
Cancer	1	Bowels & Stomach	3
Childbirth	2	Brain	6
Consumption	36	Lungs and Pleura	7
Constipation of the Bowels	1	Insanity	1
Convulsions	25	Measles	12
Dentition	5	Paralysis	2
Dropsy	7	Stricture	2
Dropsy in the Brain	6	Tumor	1
Erysipelas	1	Unknown Causes	82
Fever	7		
Fever, Scarlet	25	Casualties	6

Decrease of Burials, as compared with the preceding week . . . 18

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Nov.	Thermometer.	Barometer.
Thursday . 7	from 42 to 53	29·58 Stat.
Friday . . 8	45 54	29·61 to 29·62
Saturday . 9	45 53	29·58 29·42
Sunday . . 10	47 53	29·34 29·12
Monday . . 11	46 51	29·43 29·27
Tuesday . . 12	38 53	29·33 29 45
Wednesday 13	40 51	29·64 29·83

Prevailing wind, S.W.

Except the 11th, cloudy, with frequent showers of rain.

Rain fallen, ·8 of an inch.

Charles Henry Adams.

NOTICES.

"Unus."—We cannot concur with the gentleman who, under this signature, has written an answer to some attacks which, he informs us, have lately been made on an eminent member of our profession: our inserting the answer would be to give publicity to the scurrilities he wishes to put down.

The preceding remarks also apply to our correspondent in King's Square.

"Zoologicus."—If this correspondent will attach his name to his note, we shall at once insert it.

"An Old Subscriber."—Being a graduate of Edinburgh, and a member of the College of Surgeons, does not entitle the party to supply his patients with medicine.

W. Ogilvy, Printer, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, NOVEMBER 29, 1839.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.
Surgeon to the St. Marylebone Infirmary.

SUPPURATION.

Pus, *continued.—Can it be distinguished from mucus?—from tuberculous matter? — Summary of its qualities—Origin of fibrin globule?*
Abscess. — *Definition of — Formation — Parietes — Functions of parietes—Elaboration of pus? — Progress — Acute abscess—Characters — Chronic abscesses of various kinds—Characters.*

Diagnostically considered.—Up to the present moment all attempts to ascertain the nature of pus have been unsuccessful; all attempts to distinguish mucus from pus have been equally unsuccessful. The old test was water, in which mucus was believed to float, pus to sink; and really this test does not merit all the contempt with which it has been regarded in modern times. In water holding saline substances in solution the experiment is better; Hippocrates was aware of this, and therefore ordered patients to spit into sea water. Darwin proposed four distinctive characters: first, he says sulphuric acid dissolves pus and mucus; the latter is condensed into large flakes, which float in the solution; the former is precipitated in the form of a sediment. Other observers are not agreed on this first point. Nitric acid equally dissolves pus and mucus; water precipitates the first solution, and makes the second turbid; but as nitric acid dissolves neither pus nor mucus, the experiment is worthless. Again, says he, mucus and pus are dissolved in caustic potash, but the latter alone is precipitated: this experiment is not confirmed. At last he says, corrosive sublimate coagulates only mucus—a fact *à priori* impossible, since pus contains albumen, which is readily precipitated by sublimate. Brugmann eulogised the means proposed by Darwin, and added another. "Pus," says he, "before entering into putrefaction, becomes acid; this is not the case with mucus, which exhales no particular odour." But this is an insufficient distinction, for most substances, before entering into putrid fermentation, give out acetic acid (Weber). Smell is not a distinctive sign; good pus is, like mucus, without odour. That pus is alkaline so long as it remains in contact with an ulcer—that it afterwards becomes neuter, and later acid—is stated by Gueterbock. This sign cannot, however, be regarded as distinctive, since many substances, before undergoing putrid fermentation, give out acetic acid. Hunter first perceived that pus coagulates by the addition of a concentrated solution of muriate of ammonia, which, according to him, distinguishes it from many other animal fluids. It is true that this gelatinous appearance is so produced; but Pearson justly remarks, that it is not a coagulation, but a thickening produced by concentrated saline substances, which absorb water from pus. Diluted saline solutions do not produce similar results; besides, heat precipitates albumen from this mixture. Hydrochlorate of ammonia is without action upon filtered pus, and upon the globules alone. It therefore follows that this phenomenon is not peculiar to the serosity of pus, as Hunter believed. Grasmeyer recommended that the fluid to be examined should be mixed with tepid water; to this a certain quantity of a saturated solution of carbonate of potash should be added. Pus so treated changes soon, which is not the case with

mucus, into a transparent, gelatinous, viscous mass; the transformation is as much more rapid as the pus is healthier. But then Gueterbock says he has obtained the same results from pure mucus secreted in the fauces, and mixed with a very little water. In fact, the gelatinous mass is probably produced by the coverings of the pus and mucus globules, and may thus equally form in mucus; this means, therefore, is insufficient. Gruithuisen proposed another test: if you pour pus and mucus into distilled water, and after putting both fluids into vessels closed with thin silk, expose them to light, and to a temperature of from 97 to 106 Fahrenheit, infusoria will be developed in each, but their characters will differ. Those of mucus are a hundred times larger than those of pus, swim very rapidly, while those of pus, lenticular in form, move very slowly. If, adds he, you pour water into a muco-purulent fluid, you will see neither the infusoria of mucus nor pus, but the animals which resemble those of mucus and pus may be regarded as a mixed product. This test will not hold; Ehrenberg has demonstrated that the animalcula of these infusions have nothing constant about them; that the infusion of the same substance sometimes produces one animalcule, sometimes another. Preuss recommended as a test, to burn the fluid, and treat the ashes with hydrochlorie acid, and to seek for iron by means of the ferrocyanate of potash; if its presence be established, it is pus or tuberculous matter; if not, it is pure mucus. This is a doubtful experiment, because the quantity of iron in pus is so small, that the ferrocyanate of potash may not indicate it. Donne proposed a new test, to shew when pus is mixed with blood, even in small proportion. Pure blood, says he, is made transparent by the addition of caustic ammonia, which dissolves its globules; but if it contain the smallest quantity of pus, it is changed into a filamentous mass; and if the quantity of pus be larger, it becomes almost gelatiniform. He afterwards changed this opinion, because pure blood becomes gelatiniform by admixture with caustic ammonia. He gives another mode of detecting pus in blood. Blood, says he, only presents its own proper globules; if we discover with the microscope larger globules, we must add liquor ammoniæ, which does not dissolve the pus globule. It seems to be true that globules of blood are soluble, and globules of pus insoluble in this fluid; it may therefore be held to be a test of pus in the blood, but the test recommended by Gueterbock and Gulliver is more simple; water dissolves the covering of the blood globule, and does not exercise the same action on the pus globule. Gueterbock's summary of the subject I will give textually:—"I shall give in a few words the differenees I have found between pus and mucus, and the means which I have found most convenient in distinguishing them. Pure mucus, secreted by the nasal fossæ, larynx, bronchial tubes, and rectum, has never presented albumen, except when these membranes were much irritated. I am convinced that mucus contains pyine, but I have not detected in it osmazome; neither have I been able to extract from it fatty matter." Here, then, are differenees between pus and mucus. But then, as in certain cases it may secrete pus mixed with albumen, the fatty matter seems to be the character most proper to distinguish pus from mucus. Michael says that pus containing much fatty matter burns with a bright flame like resinous substances, whilst mucus, when it burns, only disengages some inflammable gas which burns. Gueterbock says this plan has succeeded, in his experience, when the proportion of pus was extremely small.

It is not easy to distinguish purulent from tubercuIous matter; if tubercles be taken from the glands of the neck or the bronchia, Preuss says, and this is confirmed by Gueterbock, that they will be found to contain no albumen; heat, however, will indicate the existence of a little; if the matter be mixed with water, and filtered, a fluid is obtained, which is rendered turbid by acetic acid, as well as by a solution of alum; soon a deposit is formed insoluble in an excess of these reactives; instead, therefore, of containing caseous matter, he thinks they contain pyine; he did not recognise osmazome, but instead of it the substance described by Preuss as phymatine, which, soluble in alcohol and water, is not precipitated by a decoction of galls, but which, like osmazome, is precipitated by the acetate of lead, and is not rendered turbid by sulphate of copper. Tubercles, therefore, differ from pus, by the proportion of albumen, by the presence of phymatine by which osmazome is replaced, by cholesterine which is not found in pus; still in the pus of scrofula all these substances are found; the difficulty of distinction is therefore very great.

In conclusion, pus is in appearance an unctuous homogeneous fluid, heavier than water, of a whitish yellow colour, of varying consistence; though commonly like that of liquid honey, of a sweetish taste; when warm of a mawkish smell, which is dissipated by cooling. When examined by the microscope it is found to contain an immense number of globules of unequal volume, and a large number of granules or molecules, which seem to be the nuclei of globules. Jordan found it composed

of water, fibrin, mucus, albumen, chloride of soda, and phosphate of lime; Guetcrbock, water, adipose matter, soluble only in boiling alcohol; adipose matter and osmazome, soluble in cold alcohol; substances insoluble in boiling or cold alcohol (albumen, pyine, globules and granules of pus), and saline matter. Cruikshank detected iron; this had already been done by Salmuth and Schwilgue; Pearson described four varieties, the creamy, the curdy, the serous, and the slimy pus. All these species are susceptible of coagulation at a temperature of 165° Fahrenheit. Pus of chronic inflammation is more liquid and less homogeneous, and separates into two parts more readily than when it is creamy. Pus of caries contains phosphate and chloride of lime; that of scrofulous ulcers, soda and chloride of soda; that of gouty ulcers, carbonate, phosphate, and urate of lime. The serous pus of ulcers contains more salt and albumen in solution; that of hospital gangrene, according to Cruikshank, contains no other elements than that of wounds. Again, there is no apparent physical difference between virulent and healthy pus; that of syphilitic ulcers is perfectly similar to laudable pus; that of variola and vaccinia are similar; this shews that the deleterious qualities of these fluids escape our means of investigation, and reside more in a dynamic power than in a certain combination of the elementary particles of which they are composed.

You must not, however, understand that these changes in smell, taste, or other physical or chemical properties, affect the globule or the granule; we see no definite change in them under these circumstances; we can wash away all their impurities, and shew them unchanged.

Fibrin Globule.—To what the white "lymph" or "fibrin" globule of the blood owes its existence, is a matter in dispute we believe to fibrin; that is, we believe the granules to be fibrinous, and while the blood is circulating to be held in solution in its serum; we believe, further, that this globule is not formed until the serum has escaped from the vessel; that once escaped, under one train of circumstances, it may constitute a component part of pus, under another of mucus, under another of saliva, under another of urine. Vogel, who admits the existence of these bodies, explains their origin in another way; he believes that the cells of the epithelium of vessels are constantly transformed and thrown off; this also is the opinion of Henle. These cells, which in their natural condition are, say they, provided with a central nucleus, as shewn in fig. 10, contract, become granulated at their surface, and in the end present only their original nucleus or granule. Vogel goes further, and attempts to shew in the presence of the particle of epithelium a characteristic sign of mucus. That such an epithelium is constantly thrown off and mixed with the different fluids is no doubt true; if we examine mucus we usually see these debris, varying in form upon different organs; but if these debris constitute the pus globule, how is it we never find them in the blood until it has been a short time under the microscope? If it be answered that they may be dissolved in the serum, I have nothing more to say than that it is an hypothesis unsupported by any physical evidence.

ABSCESS.

Abscess.—So formed, pus is either circumscribed, so as to constitute abscess, or it is diffused, no adhesive inflammation occurring to limit it. In the latter case it is termed diffuse phlegmon, or erysipelas phlegmonodes, and the pus is diffused through the integuments far and near: these tissues are thinned, broken down, and often sloughy; the interstices of muscles are invaded, and often when the integuments slough away the muscles are as completely dissected as if a scalpel had been used for the purpose; no pyogenic membrane, no limits to the abscess, can be discovered. The consideration of this condition we shall reserve until we treat of erysipelas; in this place we shall enter upon the subject of abscess.

Whether the term be derived from the verb *abscedere*, because pus separates parts which were before contiguous, or because it is separated from the blood, is unimportant; we apply the term to collections of pus in a newly-formed cavity.

As abscesses can only occur in such situations as will admit of pus collecting, there are certain tissues and organs in which they cannot happen: in the fibrous, fibro-cartilaginous, serous and synovial membranes, they are not seen; pus may be secreted upon a serous surface; the surrounding inflammation may be less intense, and adhesion may take place between the opposed surfaces; the pus may thus be imprisoned, and a purulent collection or abscess may be thus formed, but not in the substance of this tissue. Purulent secretion very frequently takes place on mucous surfaces; but then it is easily carried off. There are, however, a few situations in mucous surfaces where pus may be collected; the nasal sinuses, the cavity of the tympanum, the lacrymal sac. Pus may be effused into the cavity of a vessel, an artery; but it does not constitute an abscess, but in veins the collections are sometimes considerable. But of all the tissues of the body, the cellular is that for which purulent

collections appear to manifest the strongest predilections, so strong as to induce some pathologists to maintain that it was the exclusive seat of abscess; it is certainly true that they are found in this tissue much more frequently than in all others put together; but in all situations this tissue does not evince the same disposition. Hunter was clearly right in the opinion that the farther removed from the surface of the body, the less was the chance of abscess; whether this be because the deep-seated tissues are less exposed to those accidents by which suppuration is brought about, it is difficult to determine, though I incline to the opinion that, under similar circumstances, suppuration is less easily established in the deep-seated than in the superficial tissue. With respect to hollow organs, abscesses may be developed in the walls of the pharynx, the œsophagus and the stomach, the intestines and the bladder; but these are unquestionably abscesses of the cellular tissue entering into the composition of these several organs. In the glandular secretory organs abscesses may form: the lacrymal gland, and pharynx, however, seem to be exempt. The brain and spinal cord are not exempt; but abscesses in these organs are usually chronic, usually succeeding to concussion, contusion, or other injury.

We have endeavoured to support the opinion that pus is never formed in the absence of inflammation, and consequently, abscesses cannot be developed without it.

Pyogenic membrane.—Whenever a collection of pus is found, if it be not very recently formed, a particular tissue separates the purulent matter from the neighbouring tissues. To this tissue the term false membrane of abscess and pyogenic tissue has been applied. But the constancy of its existence is not so great as was believed by Delpech and others. It is true the greater number of persons who have studied this subject have regarded this membrane as the result of an action subsequent to suppuration; a work by which nature sets up a barrier against the diffusion of purulent fluid. Whether or not, in all cases of abscess, rapidly formed, the pyogenic tissue exists, it may be difficult to determine. Delpech and Home believed it to be pre-existent. I have already given my reasons for thinking that frequently it is not so; certain it is that there are many cases of abscesses formed in a few days, where no distinct mucous-like membrane can be demonstrated. Where an abscess succeeds to inflammation, of the ordinary uncomplicated character, "inflammatio genuina," as it has been termed, it is true there is an effusion into the surrounding tissue of a serous fluid holding lymph or fibrino-albuminous matter in solution; once out of the circulation this matter concretes or coagulates; the tissue in which it is extravasated loses its permeability, and thus a barrier being formed around where the pus is poured out, there it remains. It is the barrier then which constitutes the great difference between diffused and circumscribed collections of pus. Why, in the one case, this barrier is absent, and in the other present, I cannot tell. I apprehend it depends more upon the nature than on the seat or the intensity of the inflammatory action. The whole of the symptoms which accompany diffuse suppuration, the circumstances under which it is commonly seen, the inoculation of a putrid principle during dissection, are sufficient to shew that there are states of the system in which nature seems to have no power to give to the products of inflammation that plasticity by which a limit is placed to the diffusion of the evil through surrounding parts.

I believe that the walls of a very acute and very quickly developed abscess have no other covering than that which is furnished by the infiltration of the adjoining tissues, by means of coagulating lymph; there is no true membrane capable of isolation from adjoining parts It must not, however, be supposed that the barrier which we are describing does not readily assume the characters of a living tissue; all I wish to convey is, that it has none of the characters of a pyogenic membrane. Gradually, however, the tumefaction subsides, as the abscess approaches maturity, and the membrane acquires a pyogenic character, and becomes susceptible of separation by dissection; but this rarely happens when the progress is very rapid.

We have now considered abscess, from the moment suppuration is declared, to that when an accidental membrane is developed to surround it. When this new organ is fairly formed it acquires the power of secreting and absorbing. But I do not hold that the following reasons are sufficient evidence of these qualities: "The sojourn of a considerable quantity of an animal fluid, in the midst of our tissues, at a temperature so favourable to decomposition, without alteration, can only be explained by assuming that it is constantly renewed." It is commonly believed that the pyogenic membrane is the seat of a continual exhalation and absorption, by means of which this fluid is renewed. To demonstrate this double action is not easy. If we look at the extreme rapidity with which, after evacuation, large chronic abscesses sometimes refill, we must believe the action of exhalation to be very energetically performed. Again, in certain abscesses, scrofulous for instance, we may see the integuments over a purulent col-

lection so thinned that the cuticle alone seems to restrain it; and yet that fluid shall be completely absorbed. If those two actions, in ordinary cases, exist at the same time, one is usually more energetic than the other; the exhalant action predominates, and the abscess enlarges; no matter how dense the tissue in which it is seated. Morgagni describes a chronic abscess of the brain, which dilated the cranium and pushed out the frontal sinuses.

Mode of extension.—How the extension of abscess has place is the next question; to admit of this, the barrier must either be broken down and destroyed, or extended. The memoir of David, which was crowned by the Ancient Academy of Surgery, was based on the assumption that pus possessed a solvent action, and that in this way the "callosities," as he termed the parietes, were dissolved; the extension depending upon the dissolution of the parietes. In our opinion, that portion of the walls in contact with the pus does not undergo this destruction, but yields to the extension which is made; whilst the same pressure causes the absorption of the outer part of the walls, and the irritation thus developed occasions an extravasation of lymph around the circumference; but a certain distance removed from it; in this way, as the pressure from within increases, the sac extends. Some men say there is incontestible evidence of breaking down and destruction in the sloughy cellular tissue, seen in diffuse suppuration; that is true, as applied to that particular form, but not to the circumscribed form. When the abscess is subacute or chronic in its form, the development of the internal or pyogenic membrane is more distinct; it is then soft, velvety, in colour reddish, greyish, slaty, or even blackish; sometimes not unlike in appearance to the mucous coat of the stomach. Under this membrane is another, denser, less organized, whiter, and of variable thickness.

Direction.—Uusually, in enlarging, progress is made in the direction where the resistance is least marked, but almost always tending towards the surface. This point was well considered by Hunter, and afterwards by Thomson. It is interesting to inquire whether it really be the lesser resistance offered which occasions the tendency to the surface of the body in such cases. Hunter clearly believed that the cause was not so mechanical; that it was a provision of nature, for the protection of the individual; a power like that which, under almost every circumstance, directs the plumule towards the atmosphere. As a poof of this tendency, he refers to cases where a bullet has formed a long subcutaneous canal with two cutaneous orifices, and has carried with it midway some foreign body. The abscess which is occasioned by this foreign body is not evacuated at either orifice, but passes directly towards the surface of the body. Unquestionably abscesses much more frequently present themselves at the cutaneous than the other surfaces of the body; yet they may open elsewhere; a strong aponeurosis may interrupt their progress towards the skin, and they then take a different course. An abscess of the liver may open into the stomach or the colon; the latter is a fortunate termination; so is the opening of an abscess of the iliac fossa into the cæcum. An abscess situated externally to a serous cavity very rarely opens into it. To that phenomenon by which nature directs these collections towards the surface, the term progressive absorption was applied by Hunter. To the means which nature employs to rid herself of these collections, the term ulcerative absorption has been applied. There are certain circumstances which may be urged in support of the opinion that it is not by simple distension alone that the work is effected: thus even although we may make one or more punctures, nature will proceed with her work, and a *spontaneous* opening may be the consequenee. If an abseess be formed in the lung or in one of the abdominal viscera, the tendency is still towards the cutaneous surface; if it be in a lung, the pleura becomes inflamed, lymph is poured out between the pulmonic and costal pleura, and the pus passes on towards the surface instead of being poured out into the pleural cavity; but it is not always so.

Once opened with a cutting instrument, it may happen that the opening is enlarged by ulceration; but this more frequently happens when the opening is spontaneous and the integuments much thinned. If it be well-conditioned, the parietes undergo change, and granulations are developed, the cavity contracts, and ultimately the sides adhere. I believe, however, that occasionally it happens that the cavity is obliterated without granulations, for we sometimes see cases in which they are closed within forty-eight hours. But these cases are not the most frequent: the integument is thinned, the cellular tissue is destroyed, and the patient is emaciated. This is especially the case in the axilla and about the rectum. The pus which succeeds to acute inflammation in a part well provided with cellular and adipose matter, is healthy—laudable. Is it always so, or does it pass through certain stages of elaboration? That pus undergoes changes in its physical characters is evident: the pus of an abscess prematurely opened is

very different from that of one which has attained maturity. Yet these changes do not seem to affect the globule, but only the fluid part. Thompson maintained that the term maturity, as applied to abscess, was improper; that the fluid underwent no metamorphosis; that it was only more or less "collection." If we admit this identity of pus at different periods of the existence of abscess, we must, I apprehend, also admit a similar identity, whatever the nature or the intensity of inflammation, or the composition of the tissue in which it is developed. This, I think, we cannot do, unless we admit that pus and pus globules are synonymous terms. I have already stated the reasons why this position cannot be accepted. "The pus of muscular tissues is yellowish grey; that of the liver is often of a brownish-red." The pus of chronic abscesses—lumbar, for instance,—is a thin, ill-elaborated fluid, greatly mixed with other substances. Where abscesses are consequent upon, or connected with, diseased bone, the pus is usually greyish, with fibro-albumious flocculi floating in it; sometimes small clots of blood and portions of phosphate of lime. Its odour is extremely nauseous, and this is usually enough to distinguish its origin and nature: but this odour is hardly ever developed until some days after the tumor is opened, and air has been admitted. That the globules in these several cases are identical, I do not doubt: that of the liver is mixed with bilious matter, and with the broken down hepatic tissues.

Acute abscess.—The ordinary phlegmonous abscess may be developed under the influence of any cause capable of exciting inflammatory action: it may be presented at the irritated point or at a distance. For instance, there may be a slight excoriation upon the great toe, the lymphatics or veins may be irritated, and red lines may mark their course up to the groin, where acute inflammatory action may be developed. An irritation in the urethra may be rapidly transmitted to the testicles. They may be developed under the influence of general irritation, cutical abscesses in fevers, those of small-pox, and certain other diseases. It is singular that a large proportion of cutical abscesses are developed about the neck and ears. There are yet others developed under peculiar circumstances; an organ is inflamed—a gland, for instance; it communicates the irritation to the surrounding cellular tissue, which becomes the seat of abscess, while the organ itself escapes. This is not uncommon in muscular or fibrous structures affected with rheumatism—those of the cheek, in persons suffering from violent toothache. Abscesses of an acute character are often developed under the irritation occasioned by the presence of a foreign body, whether solid or fluid: the latter, from their susceptibility to pass through greater spaces, usually excite more intense action. They may be developed within the body, spiculæ of bone, or infiltrated urine, or they may be introduced from without; port-wine injected into the cellular tissue of the scrotum, instead of the tunica vaginalis; it may be produced by the irritation of a large quantity of extravasated blood. These collections, whether a consequence of the bursting of an aneurismal tumor or the rupture of blood-vessels by other means, are sometimes so large, that apprehensions are entertained about opening them, and a question arises whether they should be left unmolested, until the symptoms indicate that inflammatory action has set in, and it has become probable that suppuration has set in also, or whether this evil should be anticipated by an opening as soon as it has become probable that absorption is not proceeding to remove it. Upon this point men of great experience are divided in opinion; one party setting no limits to the power of nature, the other seeing evil in prolonged hesitation. This latter is the party I would advise you to join.

An abscess may be very rapid or very slow in its progress; and as it affects the one or the other character, may be termed acute or chronic. The distinction between one and the other is not, however, always evident. A phlegmonous or acute abscess may be superficial or deep seated, and upon these circumstances its characters very much depend. When it is immediately under the skin, the inflammation, which was intense, lessens; the redness and heat diminish; the pain, which was tensive and pulsating, becomes heavy; rigors are full; the tumor softens, and the cuticle is separated from the cutis: there is pitting on pressure; soon a pointing is perceived at the centre of the tumor, and if pressure or percussion be carefully made, fluctuation is apparent. When the abscess is superficial, the tumor is so prominent, and its characters are so decided, that it is scarcely possible to mistake it for any thing else, except it be in the neighbourhood of joints. If deeper seated, the diagnosis is less simple; the tumor is not prominent, and the fluctuation is obscure for some time. We must then look for pitting upon pressure, in consequence of a certain quantity of infiltration; because this state is usually a very faithful index of deep-seated suppuration; it may enable you to detect deep-seated abscess by the side of the rectum long before fluctuation is apparent, and justifies us in plunging the lancet deeply

into the part, to avoid greater evils. The difficulty of diagnosis may be still greater when a purulent collection is situated under aponeuroses, and the gravity of the symptoms is increased; it may then insinuate itself between muscles, injure the periosteum, and occasion necrosis: the suppuration may, in these cases, be so considerable as to exhaust the patient, or even to require amputation. Such abscesses we see sometimes under the scalp, in the back, the loins; but they are most commonly seen in the limbs, and no where are they known to produce more intense symptoms than in the thigh, probably because of the bulk of the muscles and the strength of the fascia lata.

Wherever a sub-aponeurotic abscess has its seat, the inflammation by which it is preceded is announced by a deep-seated pain, by considerable but ill circumscribed, though extended, swelling of the part. There is little or no redness of the skin, and the progress of the abscess is very insidious; it exists long before fluctuation is apparent, and to recognize it even when the collection is considerable, it is not enough to press with two fingers upon each side of the tumefaction; it is necessary to make strong pressure with all the fingers or even with the palm of the hand; sometimes even it is necessary to grasp the limb with both hands a little removed from each other, and, by making alternate pressure, a feeling of fluctuation may be distinguished. Here we must especially look for the œdema and pitting upon pressure. These abscesses should be opened as soon as the fluctuation is quite manifest: we must not wait until all obscurity is dissipated, because they will extend—will burrow between muscles and tendons, denude the bone, implicate a joint, and produce enormous and irreparable mischief. To the evidence furnished by œdema and pitting, David added another, as applicable to the thigh; an excessively acute pain felt in the heel. Still there are some abscesses affecting cavities, or so deep-seated, as to be almost beyond our means of investigation. In such cases, all we have to rely on is, the irregular rigors, the remission of inflammatory symptoms, a sense of weight where an acute pulsating pain was previously felt. How often, after death, do we discover abscesses, which during life afforded none of these signs to indicate their existence!

I have already stated that commonly, when the act of suppuration is established, ordinary inflammatory action declines; the pulse becomes large, soft, and undulating; rigors occurring at irregular intervals, and affecting the back, the loins, and sometimes the lower extremities, are observed, and are as much more marked as the inflammation has been decided. If the abscess be considerable, and the sympathetic action great, there is heat in the palms of the hands and the soles of the feet; the pulse becomes small and frequent, the perspiration irregular and nocturnal, the strength diminishes, and hectic fever is developed. The tumefaction which accompanies inflammation does not entirely disappear when suppuration sets in, but it is lessened at its circumference and fixed at its centre, which is raised, projects, softens, and constitutes pointing. The redness and tension take a similar course. The circumference of the inflamed mass becomes soft and natural, but the pointed part acquires a dark red or bluish colour, which increases as the integuments are thinned. Fluctuation at this period is very apparent, and constitutes the only positive local sign of the presence of suppuration.

All acute phlegmonous abscesses left to themselves, tend to enlarge. Absorption and disappearance of the tumor is rare; as they enlarge, they become more superficial, they approach the skin, "ulcerative absorption" sets in, the integuments are thinned, and one or many openings are made: but this ulceration is commonly slowly brought about; an abscess rarely opens when it arrives at maturity. It is, therefore, always prudent to substitute methodical artificial means for the tardy, and often imperfect, efforts of nature. Much is gained by anticipating spontaneous openings—much suffering spared, and the further extension of the disease is prevented. There are cases where it is urgent to open immature abscesses. Some persons are of opinion that those of the neck, the face, and the breast, should be allowed to open themselves, as a means of avoiding the cicatrix following incisions. In following this rule, you would very frequently fall into the inconvenience you would wish to avoid; because, if you leave the abscess to itself, the integuments become greatly thinned over considerable space; the subcutaneous cellular tissue is broken down and removed, or absorbed; those integuments will be broken down and destroyed before the wound will heal. I am convinced, that in those abscesses usually connected with glandular structures, we should never temporise—we should never too long delay opening them, or the present inconvenience and future deformity will be materially increased.

Chronic Abscess.

The lower the degree of inflammation by which an abscess is determined, the less appreciable are the symptoms. In fact,

such abscesses may be developed without sufficient pain, heat, or inconvenience, to arrest the patient's attention. A soldier whose knapsack is constantly rubbing against his back, is frequently the subject of these abscesses, and their existence is not recognized before the tumor has attained considerable size. The inflammatory action being low, the blood-vessels of the part are not much distended; the inflamed structures, instead of presenting many points of suppuration, which is the case when the suppurative inflammation is acute, present only a single one, and fluctuation is usually soon manifested. The pus, too, not being produced under the influence of acute action, is more serous, more flocculent, and is mixed with a greater or less number of heterogeneous materials. Sometimes, however, under these circumstances, its consistency is greatly increased. These abscesses, thus slowly developed, give time for a more perfect organization than those which are rapidly developed; the tumefaction of the surrounding tissues is more completely dissipated; the parietes are capable of more complete isolation: indeed the morbid action seems to be very much limited to the parietes themselves.

The greater number of chronic abscesses are more or less nearly connected with scrofula, and they are either subcutaneous or in the immediate vicinity of lymphatic glands: their most frequent seat is the neck and the loins. They are always preceded by a low degree of inflammation. The fluctuation may be soon apparent; so soon that Dehaen fancied pus must be deposited there by the arteries. At other times they are slow; are preceded by induration and by tumefaction, which exists some time before suppuration is apparent. In these abscesses the containing membrane is usually very distinct; its external and internal layers are well marked. Sometimes bands of cellular tissue, blood-vessels, or nerves, stretch across the cavity. These abscesses present a soft, circumscribed, indolent tumor; if not very deep, the skin may be much distended, but its colour is little if at all changed, and there is seldom decided pointing. Their pus is usually serous and flaky. It is very difficult to distinguish these from symptomatic and critical abscesses, and occasionally from encysted tumors.

Of this species of abscess there is one variety deserving of our especial attention: I mean those where pus is deposited at a certain distance from a carious bone, around which it is formed. This pus may take a direct or tortuous course through the adjoining cellular tissue. In these cases the pus is slowly formed, the distension is very gradual, and the pus is enabled to find a way for itself without doing much violence to the tissue through which it passes. Usually these abscesses succeed to caries of the bones of the trunk; it may, however, happen from a similar affection of the bones of the limbs; but certainly ninety-nine out of every hundred cases are owing to caries of the vertebral column.

If we examine the parietes of these abscesses at their origin, we find the bone more or less diseased, its substance more or less destroyed, softened, friable, darkish grey in colour. From this point a canal begins to be formed: it is hollowed out in the cellular tissue, taking vessels or muscles as its guide, and leading to the tumor which points externally. Along its course the cellular tissue is changed; it is hardened, lead-like; sometimes fibro-cartilaginous; occasionally presenting a character not unlike spermaceti. At the extremity of this canal is a cavity of varying capacity, lined by a pyogenic membrane. If the disease commence in the bodies of the lumbar vertebræ, the pus may pass upwards even as far as the pharynx: it may be circumscribed, may be surrounded by a strong covering, and confined to the bodies and sides of the vertebræ; but commonly it is not confined to the spot on which it is formed: the vertical position of the body during many hours, the laxity of the adjoining cellular tissue, the continued motion impressed upon the viscera of the thorax and abdomen, are among the causes which favour the downward migration of the fluid. It may take as its guide the fibrous sheath of the psoas muscles: this is the common track when caries affects one or more of the first four lumbar vertebræ: it may pass down the centres of the muscles. Even if the caries affects the latter dorsal vertebræ the same course may be taken by the pus; passing first between the pillars of the diaphragm, it may pass down to the lesser trochanter. The collection of pus may be superficial, or deep-seated; it may be within or without the sheath of the psoas. In the latter case, at first placed under the pleura, the tumor may form in the iliac fossa between the fascia and the peritoneum: it may pass on to the crural ring, and pass through it along with the vessels: it may pass towards the anterior and superior iliac spine. I had a case not long since of a young man, of twenty, in which the pus took this course: he is now quite recovered. It may take a course through the inguinal ring (Brodie). Certain abscesses proceeding from disease of the lumbar vertebræ are presented in the lumbar region; but then the disease usually affects the transverse processes or the posterior part of the

bodies of the vertebræ. Sometimes the pus may in the same case collect in the lumbar region, and descend towards the groin. In these cases pus may take a different course; it may pass through the sciatic notch, and form a tumor under the glutæus maximus, or it may present in the perineum or by the side of the rectum. You must also be prepared to meet such tumors elsewhere: they have been presented at the anterior part of the chest, the pus following the intercostal muscles. The pus may enter the spinal canal; it has perforated the œsophagus, and been vomited up. Gooch mentions a case in which such a tumor opened into a lung; Wedemeyer describes a case in which it burst into the colon. The pus found in these collections is very unlike that of acute abscess; it is largely diluted by admixture with various substances: it is thin, greyish, or yellowish; flakes of albumino-fibrinous matter float in it, and probably masses of tubercular matter. These abscesses are slow in their progress; many months may elapse after the patient has complained of pain in the lumbar region, before pointing occurs. It has happened in six weeks; it has been delayed for two years. Brodie believes that when the intervertebral fibro-cartilages are primarily affected the progress of the disease is slower; and the lumbar pains may have ceased, and the patient's apprehensions have been dissipated, when pointing is discovered. These tumors are always soft; fluctuation is very obvious; the skin does not change colour, and they are not well circumscribed: they are not painful even on pressure. By pressing upon them they may be made to diappear almost completely. I had a case some time since in which the disease was presented in the labium: so completely did it disappear upon pressure, when the patient lay down, that it was believed by several persons to be a hernia. If there be two tumors, pressure on one will usually enlarge the other. Any effort by which the abdominal cavity is lessened increases the tension of the tumor, and as coughing does so very decidedly, a superficial observer is not unlikely to mistake the disease for hernia. Slow though it be, ultimately the integuments over the tumor become thinned; the skin reddens, and ulceration may happen. Whether opened in this way or by puncture, the quantity of fluid which escapes appears out of all proportion with the size of the tumor: the jet varies with every effort, and when most of it is evacuated, we see, on inspiration, the abdominal cavity being lessened; that more is poured out; when expiration takes place, the same cavity being enlarged, a certain quantity of air is, as it were, aspired into the sac of the abscess. If we at once carefully bring together the edges of the puncture, as was advised by Mr. Abernethy, we are surprised often within a week to find the tumor apparently as large as it was before the evacuation of any fluid. Another puncture is made; a third, a fourth, a fifth, or even a sixth; but it is rarely that we succeed in completely closing up the cavity after the second or third puncture: the incision becomes ulcerated, or the integument is so thinned that union cannot take place, and fistulous opening remains. It is rarely that the pus which escapes after even a second puncture is so free from a decomposed smell as the first; but when a fistulous communication is established it undergoes great changes, becomes very fœtid, and the system sympathizes with this change; the patient becomes emaciated, his appetite is capricious, and hectic symptoms are developed, with colliquative diarrhœas, and the patient sinks in extreme emaciation. It is not an affection which under ordinary circumstances terminates life rapidly: the tumor may not open for a couple of years after its appearance: it may be prolonged eight or twelve months after the opening has been made: usually, however, the progress is much more rapid.

It is important to inquire how those symptoms are developed by which the system, at certain periods of these large purulent collections, is so gravely affected. It is believed by many that they are a consequence of the change brought about in pus by the admission of atmospheric air: other persons have maintained that they are a consequence of putrid fermentation of pus caused by the removal of pressure. Those who support this opinion refer to the air-bubbles presented in a second or third puncture, although every care has been taken to prevent the admission of the air; these bubbles indicating, say they, a decomposition of the pus. That the pus of a second or third evacuation is totally unlike that of a first, is quite true; that the change may be produced by the action of atmospheric air upon this fluid, is possible. But how does this altered fluid so deeply affect the economy? Some persons are of opinion that pus is absorbed, and deposited in the circulating mass. To this opinion I cannot assent, because that group of symptoms produced by the introduction of pus into the circulating mass is quite unlike those which occur in these abscessee. I apprehend that the change produced in the purulent fluid is not the sole cause of those serious symptoms: the exhaustion conse-

quent upon profuse suppuration concurs with other causes to produce them. And to these we must add the inflammation of a membrane which lines so large a cavity as that of a lumbar or psoas abscess frequently is. From the first day rigors are often manifest; a very violent paroxysm of fever follows, and the parietesof the abscess become painful to the touch. There can be no question that these symptoms are owing to inflammation of the pyogenic membrane. Still the fœtidity of the fluid must always lead us to presume that putrid decomposition is going on. It may be very fœtid on a first evacuation: abscesses of the brain are always extremely fœtid; those of the abdominal parietes are also occasionally so, even though no viscus be directly implicated. In those which are developed near cavities which may contain gaseous fluids, or in the vicinity of organs containing particular glands, this is especially the case—the mouth, the trachea, the vagina, the rectum. Whatever objections may be raised, it is very certain that the admission of air often exercises a deleterious influence upon certain parts of the animal economy. This is well shown in compound fractures; in the inflamed pleura, if the operation of empyema be then performed. All surgeons are also aware how desirable it is to exclude air from wounds. Chaussier, and the vitalists, deny the possibility of such changes in the living body; but if the concurrence of circumstances most proper to determine it—the presence in the same cavity of decomposable matter, atmospheric air, and a temperature of 100° Fahrenheit—are not sufficient to prove the fact, the odour of the fluid, the ammoniacal gas which is disengaged, its instantaneous action upon metallic instruments plunged into it, are sufficient to remove all doubt.

There are yet other circumstances besides the admission of air which contribute to produce a change, and to develop putridity in the pus contained in large abscesses. The reaction exercised by viscera irritated sympathetically after the opening, exercises considerable influence: the alimentary canal, the nervous system, and the heart, are irritated by the inflammatory action developed in the parietes of a large abscess, and under this influence pus rapidly changes, and acquires a putrid state. There are therefore two causes in action—the one chemical, the other vital. They are perfectly compatible; in fact, are almost always united in the living body: indeed, most of the phenomena of life may be reduced to chemical combinations modified by vital action. We know that fluids secreted during certain diseases are as much more disposed to become putrid as the irritation or inflammation under which they have been produced has been more intense. The action of air alone does not always produce these changes, while inflammation of internal organs will excite them very rapidly. Open a symptomatic abscess not far removed from the irritation which has occasioned it: unless its cavity be considerable, fever is rarely developed, and the sanious or fœtid change in the pus is not produced. But let a gastro-intestinal irritation be lit up, and the pus will soon undergo the changes we are considering. The same phenomena will constantly be observed in wounds: in all these cases, to the irritation of the denuded part is added a visceral irritation, by which fever is excited, and the changes in the elaborated fluids follow. Still the entrance of air is probably the cause of the local inflammation, and in many cases of all the ulterior accidents. We should, therefore, as much as possible endeavour to exclude it.

Although in this species of abscess the disease in the majority of cases is not discovered before pointing takes place, yet when it affects the spinal column a certain number of symptoms are present; pain, tumefaction, uneasiness; in fact, symptoms of disease from whence the pus will proceed. But these signs are not enough to satisfy us that caries is taking place: in fact, to discover that suppuration is actually going on is rarely possible in such cases until pointing occurs. It is true, when there is irregular fever, night sweats, and other signs of internal suppuration, they justify us in suspecting, especially when accompanied by embarrassed respiration, that suppuration has taken place. In such cases, although no tumefaction exist at the groin, the crural regions, or the other openings of the pelvis, it is probable that it will soon appear.

With respect to suppuration generally, we must never lose sight of one circumstance; that is, the great facility with which, in some persons, pus is formed. The slightest irritation in such persons is enough to excite it, whilst in others intense cellular inflammation may exist without occasioning suppuration. Pale, flabby, lymphatic subjects, and those broken down by previous suffering, belong to the first class; as well as those suffering from particular diseases—small-pox, gastro enteric irritation. In such cases, and when abscesses have long existed, and are suddenly suppressed by surgical operation or otherwise, almost all the organs of the body manifest a singular tendency to similar secretions. It appears as if nature had supplied materials which must be got rid of at any cost.

ON SIPHILIS.

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[*For the London Medical Gazette.*]

General laws of constitutional lues recapitulated — Group of symptoms that attend siphilitic psoriasis—Siphilitic pains — Excoriation of the fauces and nostrils—Falling off of the hair — Treatment of siphilitic psoriasis — Cases.

I have represented constitutional lues as a disease having an ordinary duration of from one to two years, during which several remissions, or complete intermissions of every symptom, occur. This is, indeed, but another mode of stating that when secondary symptoms of siphilis have once appeared, they are liable to reappear several times, the whole term in which they are liable to reappear being commonly limited to one or two years.

Sometimes the duration of constitutional lues is confined to a few weeks, and to a single attack of secondary symptoms. In the other extreme, the symptoms continue to reappear at intervals for several years.

In most instances the tendency of the disease is to wear itself out, each renewed attack of secondary symptoms being less severe than the preceding. Nevertheless, occasionally the disease shews a disposition towards increasing virulence.

The first attack of secondary symptoms generally occurs between two and three months from the commencement of the primary disease; frequently, however, it occurs within a month from that period; sometimes after a year or years have elapsed.

When mercury has been used in the treatment of the primary sore, the secondary symptoms are slower than otherwise in making their appearance; and as secondary siphilis, when it occurs after the mercurial treatment, is not found to have been mitigated by it, the final recovery of the patient in these instances is proportionately delayed. This circumstance is the strongest argument that can be advanced against the treatment of chancre by mercury. It is very difficult to say which is the lesser evil, a diminished chance of indisposition beginning and terminating at a distant period, or an increased chance of the same illness, to begin and terminate earlier.

The parts principally affected in constitutional lues are the skin, the throat, the iris, the bones. I have divided the affections of the skin into the non-ulcerative and the ulcerative; and have described of the former the appearances of roseola, mottling, and psoriasis.

I shall now proceed to describe the progress of an attack of siphilitic psoriasis, which symptom is the prominent one in the most frequent variety of constitutional lues; it is, indeed, sometimes the only symptom present. Even the slight impairment of health, which is generally observable during the whole duration of lues, sometimes here exists in a barely appreciable degree; and the patient considers that he is perfectly well but for the few spots which continue to form upon the head, the body, the hands, upon one or more parts of the cutaneous surface, new ones appearing and coming forward as the earlier ones fade. Such an attack may last for several weeks, and never recur; or, as it more frequently happens, the complaint may disappear and return after an interval. Instead, again, of a simple outbreak of psoriasis upon the cutaneous surface, there may coexist with, or precede it, other symptoms, that have now to be examined.

The symptoms that thus often group with psoriasis are (besides roseola and mottling of the skin, that have been already adverted to), siphilitic pains, excoriation of the mucous membrane of the fauces, and falling off of the hair. These are likewise, indeed, in themselves independent or substantive symptoms of lues. If often found in conjunction with psoriasis, each sometimes exists alone, or is found in other combinations. Siphilitic pains and loss of hair are equally met with both in the lichenous form of lues, and in secondary cutaneous ulceration. They are liable to go with either of these three great forms of siphilitic cutaneous disease, just as iritis, and affections of the bones, are liable to follow in the train of each.

Siphilitic pains resemble those of chronic rheumatism. Sometimes they affect the whole person; often the back and shoulders only; sometimes one part alone — the elbow, the knee, the

ankle, the shin bones. They bear no proportion to the severity of the other symptoms. Sometimes they last during a few days only; in other cases during the continuance of the eruption. They occur in the mildest forms of the disease as well as in the more serious; and in the most virulent case of psoriasis that I have witnessed they were absent. There is, however, one less usual form of psoriasis, in which they invariably precede the eruption; and being attended with constitutional disturbance, put on the characters of a protracted eruptive fever. The same thing, it is well to observe, uniformly happens in lichen. Pains sometimes occur at a remote period of time, many months or years, after primary siphilis, and are the only symptoms of the complaint developed; they are then capable of being identified with siphilis by the history of the case, and their yielding to anti-siphilitic treatment.

Mottling of the skin frequently coexists with psoriasis. The body, for instance, is often mottled, while there are patches of psoriasis on the head and hands. Sometimes, indeed, the mottling exists alone, without either psoriasis or any other symptom. It seems an incomplete effort towards the same action.

Siphilitic excoriation of the mucous membrane of the fauces and nostrils is an extension of psoriasis to these surfaces. Patches of the mucous membrane become inflamed, and are covered with a layer of thickened whitish epithelium: when this moist scale desquamates, the surface exposed is red and raw. The alternation of these appearances is best seen upon the tonsils, which are the commonest seat of the affection; they are at the same time more or less swollen. On the arches of the palate the patch remains more constantly white; upon the under part of the side of the tongue, or at its tip, the patch, on the other hand, is commonly excoriated. Upon the inside of the lip such a patch occasionally forms, of the size of a silver penny, with the same whitish appearance as on the arches of the palate. Upon the dorsum of the tongue, the same affection is attended with surrounding induration, and fissures of the surface. When a part of the lining membrane of the nose is in this state, it is red, sore, and uneasy, but there is no increase of secretion. The patches on the palate and tonsils are less sore than those on the other parts of the mucous membrane. These appearances are sometimes the sole evidence of the existence of secondary siphilis. In a greater or less degree they are very constant attendants of cutaneous psoriasis. They generally occupy one or two only of the points indicated at a time.

After psoriasis has existed some weeks the hair is liable to begin to fall off. This I have known happen as an isolated symptom of secondary siphilis, some time after the cure of chancre by mercury. In the case of David Philips, again, given by Mr. Rose, three months after a sore of the common appearance of chancre had healed with much hardness and thickening, mercury not having been used, "the hair came off in large patches, particularly about the back of the head:" in two months it grew as strong as ever. Mr. Rose adverts to another similar instance in which, as in this, no other symptom manifested itself.

The course of siphilitic psoriasis, independently of the uncertain coexistence of one or more of the preceding symptoms with it, is extremely variable: sometimes it disappears after a few weeks, and does not recur; far more frequently it continues for many months, alternately getting better and worse; or, after completely disappearing, it returns in fresh attacks. Sometimes left without treatment, it remains for months nearly stationary. Occasionally one or more of the patches ulcerate; but the ulceration is superficial, and cicatrization speedily follows. When the disease is protracted, the eruption is likely to be complicated with iritis, and with affections of the bones.

These great diversities in the habitudes of this form of siphilitic disease render it impossibe to lay down any invariable rule for its treatment. Where the symptoms are mild, it is better to give no medicine, but to allow the complaint to wear itself out, enjoining only great moderation in living. When it appears in a middling character of virulence, or where, being in its mildest form, it happens to disfigure by breaking out on the hands or face, it becomes necessary to resort to medicine to repel the disorder: for this purpose a course of the iodide of potassium is to be employed. In general the exhibition of the iodide for two or three weeks, in

doses of from two to ten or twenty grains three times a day, is fully sufficient to subdue the attack. I am disposed to think it very important to let the complaint wear itself out when it is possible, with little or no assistance from medicine. All that I have observed leads me to believe that the disdisease never strengthens itself, but, on the contrary, exhausts itself by its outbreaks. When they are repressed by the use of the iodide of potassium, or sarsaparilla, or both together, they nevertheless return after an interval; and it is far from impossible that the entire duration of the complaint may be thus lengthened. Another argument against using medicine in these attacks, when it can be avoided, is, that it is never certain in what form the disease may next make its appearance; and it is desirable to keep in reserve, against a contingent more serious attack the full force of an untried, and therefore a more efficacious remedy.

In the most virulent cases, a course of mercury may be resorted to with a certainty that it will subdue the attack. This measure is especially to be recommended, if mercury was not given for the primary disease. But mercury administered in such a case only, like the iodide of potassium, repels the present attack; the disease is not extinguished by it, but will certainly manifest itself anew; probably, however, its next reappearance will be in a mitigated form, and then, of course, mercury is not again to be immediately resorted to.

The most effective time for the employment of mercury in siphilitic psoriasis, is when the disease has lingered on for a considerable period, having, as it may be supposed, approached its natural extinction, yet when it is not clearly on the decline (when mercury would be unnecessary), but is either stationary or progressing. The extinction of the disease, it has appeared to me, may then be accelerated by the use of mercury.

I shall now proceed to exemplify the features of siphilitic psoriasis, and its treatment, by the detail of cases; and I shall first place before the reader three, out of many given by Mr. Rose, which show the natural course of the disease in its mildest form.

John Lee, admitted Sept. 5, 1815, with two foul sores of the size of a silver penny on the internal prepuce, which had all the characters of chancres, and had been present seventeen days. Sept. 16, a bubo had appeared in the right groin. Oct. 30, the sores healed; the hardness of the prepuce was diminishing. The bubo was dispersed. Nov. 9, he had rheumatic pains in his shoulders and arms, and a dark mottled appearance of the skin over every part of the body. Nov. 25, the mottled appearance had begun to fade, and the rheumatism was less severe. Cicatrix of the sores natural. Dec. 15, the symptoms had disappeared.

E. Hogg, admitted Nov. 13, 1815, with a deep ulcer, with hard irregular margin, on the inner membrane of the prepuce, of the size of a large split pea, with bubo in the right groin. The symptoms were of a few days' standing. Dec. 16, the sore was healed, with a great deal of thickening and hardness. The bubo had suppurated, but the matter was beginning to be absorbed. Jan. 2, 1816, a very irritable sore was again formed, from his having rubbed the cutiele off the cicatrix ten days ago. The whole prepuce was inflamed and swollen. Feb. 7, the sore had again healed. The hardness was like a piece of marble. The bubo had come forward, and had burst and healed. His skin had a dark mottled appearance on every part of his body. Feb. 28: by the use of a little mercurial ointment and camphor to the cicatrix, the hardness had a good deal diminished, but was still very considerable. The mottled skin was as before. April 16, the mottled appearance had entirely gone off. The hardness of the cicatrix remained. Sept. 21, the cicatrix was nearly natural.

Wm. Carrier, admitted May 23, 1816, with a deep foul sore by the edge of the corona glandis near the frænum, one side of which was destroyed by it. The base and margin were much indurated and thickened, and the discharge was thin and acrid. The sore was not healed till the 8th of August, and then with considerable hardness. A gland became affected in his left groin a few days after his admission, but was dispersed in about a month. July 6th, he observed some spots on his breast and loins, and in a day or two the whole body was covered very thick with dark brown patches, of an irregular form, and a little elevated, larger than the diameter of split peas, giving a mottled appearance to the skin. A few were

visible on his forehead, about the roots of his hair, and behind his ears. July 17, he began to take sarsaparilla; the appearance of the eruption had not altered. August 8, there were still some coppery spots on his forehead and about the roots of the hair, but those on the body were much fainter. August 21, the eruption was faint. Oct. 6, a dark-coloured eruption, slightly elevated, had again become more distinct on his back and shoulders. Nov. 24, his tonsils were enlarged, and looked as if covered with an additional layer of lymph. Feb. 9, 1817, the same eruption of the tonsils continued. The eruption had disappeared. Feb. 23, the tonsils were nearly natural. His health had been uninterruptedly good since the pain and irritation of the sore subsided.

I shall now narrate a case in which the symptoms were extremely mild, but at the same time intractable. They were tronblesome enough to require medicine, but each medicine used was efficacious only when first tried, and afterwards proved nugatory, or disagreed. The disease finally wore itself out, under the observance of great caution in living.

A. B., when on the Continent, observed, after exposure to infection, a small superficial circular sore on the inner prepuce, near the corona glandis. In three or four days the surface of the sore became elevated above the surrounding skin. Calomel in powder was then applied three times a day for ten days, and the sore healed, leaving, however, much hardness of cicatrix. To this mercurial ointment was applied, and the hardness dispersed in ten days more. One grain of blue bill was given daily at the same time, and continued four weeks; it produced no sensible effects. Four weeks from the first appearance of the ulcer two or three spots appeared on the palms of the hands, which enlarged to irregular red patches, with desquamation: the throat became excoriated about the same time. After a few days, having returned to England, and living in society witeout any restriction as to diet, he recovered of the sore-throat, but the spots remained. Towards the middle of May, two months from the first appearance of the sore, the spots on the hand increased in number and size, and the sore-throat returned. In June he began to take sarsaparilla, with liquor potassæ, and continued to do so for five weeks, when he became quite well again; he lived, besides, strictly by rule, dined at two, and drank no wine. Then he went to the sea side, continuing to live as carefully, but when there he experienced a return of the disease, for which sarsaparilla and potass were again taken, but without advantage. There were spots on the head, hands, and scrotum, excoriated throat, and soreness of the mucous membrane of the nose. A sixth of a grain of corrosive sublimate was now tried twice a day for two days, three times a day three days, four times for two days. Great amendment followed, and the hands became quite well; but depression, with faintness, and irregular action of the heart, supervened. The mercury being on this account discontinued, the spots and sore-throat returned. Towards the end of September mercury was tried again, and four grains of blue pill were taken every night for a week, with manifest improvement; then supervened diarrhœa and dysentery. The medicine being discontinued, the symptoms in a short time made progress. Then in succession other remedies were used. The decoction of sarsaparilla, the infusion of sarsaparilla in lime water, small quantities of mercurial ointment, the iodide of potassium in minute doses; all of which seemed to do good for a few days, then became nugatory; and the mercury when persisted in, disagreed. So the winter passed, upon the whole with improvement, and he left town better in health about the middle of January. Feb. 1, the psoriasis increasing again on the head and on the throat, and appearing on the hands, a sixth of a grain of corrosive sublimate was taken twice or thrice. In five days the throat was better, but he had become pale and weak: the mercury was therefore discontinued; upon which he became worse, and the oxymuriate resumed had no effect. He then lived with the greatest care and management as to diet and habits, taking no medicines, and every symptom disappeared. He is now in perfect health, but for several months after the period spoken of, any deviation from the most regutar living would bring back symptoms of the disease.

The two cases which I shall next

narrate exemplify the efficacy of the iodide of potassium in subduing attacks of ordinary siphilitic psoriasis.

B. A., aged 24, was admitted an out-patient of Middlesex Hospital, for a superficial sore on the inner prepuce, which had existed three weeks: it was not indurated, but its surface was red, and the surrounding skin inflamed and angry. The black wash was directed to be applied on lint to the sore; and ten grains of the iodide of potassium, in decoction of sarsaparilla, ordered to be taken twice a day. Three days afterwards there was more inflammation about the ulcer, and the lower part of the belly was mottled with red patches of an irregular figure. Aperient medicine was given; the wash changed to a saturnine and opiate lotion, and the dose of the iodide increased to a scruple three times a day. In a few days the sore had materially improved, but the forehead was covered with red circular patches of the size of a silver penny; the belly was more extensively mottled, and the throat was excoriated. The same medicines were continued. In a week afterwards the spots had become less bright, and in four weeks more, under the same plan, they had disappeared. The sore had granulated and healed in a shorter time. This patient came again to the hospital after upwards of a year: he had a few spots of psoriasis on his head and hands, and excoriated throat, and these symptoms he said had recurred several times, but to so slight an extent that he did not think it worth while to apply for medicine. I ordered him the iodide again, and I have not seen him since.

B. C., aged about 27, had, in March 1836, a small circular sore, slightly excavated, on the inner prepuce, near the edge of the glans: it was not indurated, but upon applying the black wash for three days no change took place in its character: he then began mercury, taking for a fortnight fifteen grains of blue pill daily. This producing no effect upon the gums he used in addition half a drachm of mercurial ointment every night: the sore now began to granulate, and slowly healed towards the termination of the fourth week, when the mercury, which had never thoroughly affected the gums, but had produced paleness and night perspirations, excited erethism: he had headache, intermitting pulse, and vomiting. No further mercury was therefore given. Thirteen months afterwards, through catching cold, as he supposed, when heated with exercise, he experienced pains in the shoulders, which were treated as rheumatism, but did not leave him. He then reapplied to me, when I found the abdomen mottled, and that he complained of pain, swelling, and stiffness of one knee, on which he had received a blow some months before. By my advice he took sarsaparilla, with the iodide of potassium, first five grains, then ten, three times a day, for a month, and recovered. During the following summer he was attacked with slight sore-throat, psoriasis on the legs and hands, with spots upon the head, and excoriated throat. For this he took sarsaparilla alone, became fatter, and perfectly well, and took considerable exercise in shooting. In November he had another slight attack of psoriasis; two or three spots formed on the wrist, the throat was sore, and the periosteum of one tibia: he took the iodide again for three weeks, and completely recovered. Early in the spring, when in the country, he experienced severe headaches, for which he was purged and cupped without benefit. On taking the iodide for a fortnight he became well again.

The next case which I shall narrate exemplifies a virulent outbreak of psoriasis, where the treatment of the primary sores had not been mercurial. Mercury was required to repel this attack. Other forms of cutaneous disease then followed, of a kind to the cure of which mercury was less appropriate. These and subsequent outbreaks of psoriasis in the same case, have yielded to the iodide of potassium.

A middle-aged person had been exposed to infection more than eight weeks before, when he discovered a sore upon the inner prepuce, near the glans. He shewed it to a surgeon, who assured him that it was not venereal, and gave him an astringent lotion to dry it up. Ten days afterwards, which had been spent in considerable exercise and travelling, the sore presented the following appearance:—It was covered with dark adherent secretion, and the adjacent part of the prepuce was swollen and red. The sore was about half an inch in diameter, circular, one half on the body of the penis, the other on the prepuce, as it appeared when the latter was drawn back. At the bottom, the sore

looked as if disposed to spread, by the sloughing of the cellular texture between the integuments and penis. It was not attended with pain. An ointment containing Peruvian balsam was applied on lint to the sore, an aperient given, and decoction of sarsaparilla, with four grains of iodide of potassium, ordered to be taken twice a day. In four or five days the sore had become clean, and had begun to granulate, when I discovered accidentally, the patient having no suspicion of its existence, another smaller sore on the opposite side of the inner prepuce. It was circular, without hardness, very slightly excavated, with a definite raised edge; the surface soft, vascular, and all but granulating. The same dressing was applied to it, and, like the first, it became a healing sore, and both were going on to cicatrize (which they did in three weeks, neither leaving hardness), when, in ten days from the commencement of the use of the iodide, siphilitic psoriasis broke out on the glans penis, on the scrotum, on the pubes, abdomen, and loins. The dose of the iodide was increased, but the eruption advanced, and, appearing upon the head and face, threatened considerable temporary disfigurement. At the same time, it seemed so little controlled by the means employed, that I thought it necessary to recommend a course of mercury. The gums were affected in three or four days, and the spots upon the forehead became stationary. The course of mercury was pursued for five weeks: by that time the spots had every where disappeared; but those on the forehead had left broad, yellow, circular stains, which only slowly wore out during the half year following. The character of these spots had been this: at first the upper part of the forehead looked mottled at half a dozen points near the roots of the hair; then distinct circular spots, of a faint red, were seen, a quarter of an inch in diameter; they were slightly raised and convex; as they enlarged they became less elevated, and of a darker colour—a browner shade of red; and thin scales of cuticle began to separate from them. In ten days from the termination of the course of mercury, the integument at the inner part of one eyebrow and one ala of the nose, became thickened, swollen, and red, assuming such an appearance as precedes siphilitic ulceration of those parts. The iodide of potassium was then given for three weeks, first in ten grain doses, and finally half a drachm, three times a day. In four or five days from the commencement of this medicine, the redness and swelling of the integuments had begun to decline. A week had scarcely elapsed from the discontinuance of the iodide, when a new eruption appeared; spots broke out on the face and forehead, spreading with a red or elevated edge, leaving the centre paler: For this the iodide was recommenced, and, as it did not act as quickly as before, five grains of Plummer's pill were given every night in addition. On this attack receding, the throat became troublesome; the tonsils had already been swollen and excoriated, but now an angry superficial ulceration, with a yellow edge, spread over the soft palate: this gave way at once to a gargle of decoction of bark with half a grain of corrosive sublimate to the ounce. Next a papular eruption appeared upon the forehead and face, and afterwards psoriasis at several recurrences; but these have gone away each time upon a week or fortnight's course of the iodide, and since the first outbreak the attacks have been progressively milder. During the whole period, the patient's general health has been unaffected.

The two following cases exemplify the utility of mercury in progressive siphilitic disease commencing with psoriasis:—

A. B., about thirty, in the autumn of 1827, had (which had several times happened to him before) excoriation following suspicious connexion, which healed in a few days. In December he lost strength, his knees became weak and slightly swollen; his legs ached, and he perspired at night. Several circular red spots now appeared on the forehead and loins, for which an occasional dose of blue pill and aperients and bitters were prescribed. The mouth was not affected with the mercury. He consulted me in May 1828, when I recommended the decoction of sarsaparilla with the extract; which he took for two months, experiencing great amendment during the first, and but little in the second, at the close of which he went into the country. In August he became worse; the spots which had before become paler, ulcerating, and two nodes forming on the tibia. He took small doses of corrosive sublimate, and began to mend. On the 26th of November I again saw

him. He had now taken the corrosive sublimate about two months; the ulcerated patches were all healed but two; some of them had begun to ulcerate after the alterative course had been commenced three weeks, at which time the nodes ceased to be painful, and he lost the sense of weight, uneasiness, and aching in his knees and legs. But he thought that latterly the nodes had increased in size, and had become more tender on pressure. I therefore ordered him to take larger doses of mercury. For a month he took ten grains of blue pill every night, and five grains for some time longer. Every symptom disappeared during this course, and he afterwards remained perfectly well.

A. B., aged 26, admitted into Middlesex Hospital, October 25, 1829, in April 1828, had gonorrhœa, followed by a sore on the glans, which broke out in June. He took mercury, and the ulcer healed. His mouth was sore a few days only. In October 1828, he was seized with what he thought a rheumatic attack; he had pain and stiffness in all his joints and of the loins, and was confined to his bed a fortnight. These symptoms subsiding, psoriasis broke out on his whole person, but most on the face, shoulders, and legs: at the same time he had sore throat, which left him in a fortnight. The eruption, for which he has taken no medicine but an occasional aperient, has continued to the present time, having lasted a year; during which other symptoms have appeared. He has now spots of psoriasis that are nearly circular, and are slightly raised upon the shoulders, arms, forearms, and legs: some of them are grouped in clusters. Two situated upon the leg have recently began to ulcerate; some of the others have ulcerated and have healed. There are two small nodes on the right tibia, a large one on the left, one on the right side of the os frontis. They vary at different times as to size and painfulness, and that on the forehead has once disappeared; it now is the most tender, and aches every evening from five to ten. He sleeps well, and has no night-sweats. The nodes on the legs have been much more painful than that on the forehead; their amendment was spontaneous. The surface of the swelling on the os frontis is smooth; that of the nodes on the tibiæ granulated.—Blue pill and mercurial frictions were ordered, which were continued to the 23d of January, so as to keep his mouth moderately sore from the 1st of November to that time; by which the spots had faded, and the nodes on the legs had become free from pain and tenderness, and that on the forehead had entirely disappeared. There remained only brown discolorations where the larger spots had been, and some enlargement of the tibia*.

[To be continued.]

SMALL-POX AND VACCINATION.

DR. GREGORY'S REJOINDER TO DR. CONOLLY.

To the Editor of the Medical Gazette.

Sir,

When I undertook to offer some criticisms on Dr. Baron's report, I was not aware of the obligations I lay under to him. I never could have guessed that, out of regard to my feelings, he had erased any portion of his report. In what way the scrutiny of a statistical return, intended for the public eye, would have wounded my feelings, I am unable to divine; but I feel grateful for the attention which I am sure was kindly meant. I cannot consent to be outdone in acts of courtesy, and the least return that I can make for such politeness, on the part of Dr. Baron, is to refrain from any further animadversions on his report.

It remains, therefore, only, that I discuss a few minor points with Dr. Conolly. He, in the first place, accuses me of "admirable inconsistency," in first denying, and then acknowledging the truth of Dr. Sonderland's experiments. Such inconsistency, if it could be proved as easily as it is charged, would put me to the blush, and probably cure me, for the rest of my life, of any controversial tendencies.

If, however, Dr. Conolly will do me the favour to compare the passage on which he builds his long and laboured attack, with the London Medical Gazette, Vol. ix. p. 301, column 2, line 28, he will find that the words imputed to me (commencing "the interesting fact") are not mine, but Dr. Baron's. Your printer, unfortunately, omitted the inverted commas. The only town in

* In the last paper, p. 322, line 21, *for* "indurated," *read* "unindurated;" p. 323, line 56, *for* "shown," *read* "slower;" p. 325, line 60, *for* "maculata," *read* "maculatio."

England where this mistake was immaterial was Cheltenham, from whence Dr. Conolly writes, for Dr. Baron was there to recognize his own expressions, and detect the error of the press.

In the next place, Dr. Conolly charges me with inconsistency, in first asserting that the question of the origin of cow-pox "is of vast extent and importance," and afterwards saying it is "of no importance." I have explained the cause of the last error, and I will try to find a clue to this. In my second letter (p. 209, column 1, line 44) I stated that I was fully sensible of the value of Mr. Ceely's experiments, as a most interesting addition to the pathology of vaccinia. Where the words "of no importance" occur I have in vain attempted to discover. I drew a distinction, indeed, between pathological and practical importance, and it is probable that Dr. Conolly objects to this distinction. Be it so; we differ on this point; but Dr. Conolly will excuse me for hinting that this is not inconsistency. I differ from him, but not from myself.

I have no fault to find with Dr. Conolly's strictures on the Reports of the Small-Pox Hospital. He may view them as inaccurate, as being drawn up in a loose and careless manner, and as undeserving the attention of the Section. The very flattering manner in which those same returns have been quoted, by all the chief continental writers on small-pox after vaccination, and the remarkable uniformity in the results of our respective tables, must be put into the opposite scale. The statements were made without bias or prejudice, and so long as I continue physician to the Small-Pox Hospital, will continue to be made on the same principle. The subject has been most amply discussed in the evidence taken before the Vaccine Committee of the House of Commons, p. 128 to 134.

Dr. Conolly remarks, "that the whole history of the Small-Pox Hospital, as far as vaccination is concerned, beginning with the mistakes of Dr. Woodville, in 1799, has been most unfortunate." This passage is, in substance, the same with one to be found at p. 274, vol. I, of Dr. Baron's Life of Jenner, where it is said, "the atmosphere of the Small-Pox Hospital has always been unfavourable to the benign influence of vaccinia." The assumed blunders of the Small-Pox Hospital, in 1799, have been often brought before the public by Dr. Baron, and are now repeated by Dr. Conolly. I question very much whether either of these gentlemen are aware of the light which has been thrown upon those supposed blunders, by the observations of numerous writers in the course of the last three years; but I must check myself, for I am touching on the subject which, from courtesy to Dr. Baron, I had declined to enter on. Allow me, however, to observe that such hard words as I have just quoted are calculated to wound my feelings quite as much as any which Dr. Baron could have suppressed. Yet for twelve years past I have supported myself wonderfully under the infliction. While the Small-Pox Hospital continues to advance in public favour, and to vaccinate, directly and indirectly, near six thousand persons annually, and while our file exhibits numerous letters from practitioners, in all parts of England, requesting supplies of our lymph (even before the penny postage law comes into force), I have no fear of Dr. Conolly making many converts to his opinion.

I have lastly to advert to another of Dr. Conolly's favourite charges of inconsistency, namely, that I lauded the Report of Dr. Baron at Liverpool, and criticized it in London. Now as to the facts. The Vaccine Committee met. Dr. Baron occupied more than three hours in reading a Report which he had prepared with great labour. Time pressed. The members had been already summoned to the general meeting. Though it was not all I could wish, yet Dr. Baron's report contained much new and interesting matter, and I seconded the motion that it be adopted, and I thought that in acting thus I had done a very handsome thing, considering the slights thrown upon the Small-Pox Hospital in that report. Mr. Banner, of Liverpool, can testify at what personal inconvenience to myself I waited all the next day, in the hope that some abbreviation of the second reading might give me an opportunity of making a few comments. Dr. Baron, however, did not conclude till the dinner hour arrived. I may be wrong, but it seemed to me that the strictures on the Report were as little desired then as they are relished now. After dinner, I spoke of the labours of Mr. Ceely, and of the spirit which animates the Provincial Association, in that strain of eulogy

they so richly deserve. I was not aware that I had said one word about Dr. Baron or the Report. Fortunately, however, for the benefit of the curious in this matter, a full report of my speech was published in the Worcester Journal. If I did allude to the subject, I probably lauded Dr. Baron's zeal in the cause of vaccination, his untiring energy in the support of Dr. Jenner's views, his great exertions in producing a Report which might be worthy of the age, and of the Provincial Medical Association, of which excellent qualities (besides many others) I have never to my knowledge attempted to deprive Dr. Baron either here or elsewhere.

I am sorry to perceive in Dr. Conolly a wish to divert into another channel a discussion which I commenced in the hope of elucidating some obscure and disputed points in vaccine pathology. Profiting, however, by the lesson which he has taught me, I shall be careful in future, when I have occasion to address you on such topics, to follow the more prudent course of your correspondent Scrutator, and to adopt such convenient cognomen as Medicus, M.D., or Non Nemo.

With many apologies for this intrusion, which, however, is positively for the last time this season,—I am, sir,

Your obedient servant,

GEORGE GREGORY.

31, Weymouth Street,
Nov. 23, 1839.

SCRUTATOR'S REPLY.

To the Editor of the Medical Gazette.

SIR,

FROM the first introduction of vaccination in 1799, the friends of Dr. Jenner have endeavoured to brand every man as an enemy to his species, who has ventured to doubt for one moment that the whole of the statements of Jenner were correct. Now, sir, I ask whether this is a legitimate way of conducting a scientific inquiry? Dr. Conolly repeats, for the fiftieth time or more, in the GAZETTE of last week, the story of his party against Dr. Woodville. I contend that Dr. Woodville, as physician to the only Small-Pox Hospital in England, had a perfect right to receive the new practice with caution, and to make the experiments, which he did make; nay more, that the public and the profession had a right to expect that he should make them before he took for granted that the statements of Jenner were correct, so far as could then be ascertained. Suppose the case otherwise; suppose the conclusions of Jenner to have been wrong, although made with the best intentions, and that Dr. Woodville had received them on the word of Jenner without further inquiry: would not the public then, and with justice, have had cause to complain of the proceeding of Woodville in adopting, without examination, such an important change as the first introduction of vaccination undoubtedly was? And because Dr. Woodville dared to make these experiments—to do, in fact, what common sense and common prudence dictated, his mistakes, as they choose to call them, and the hospital to which he was attached, have constantly afforded food for invective for forty years afterwards. I think it most likely that the eruption which followed those experiments of Dr. Woodville was nothing more than the vaccine lichen, a sequence of vaccination with which we are perfectly familiar now, but which was not known at that period.

The valuable information collected at the Small-Pox Hospital of late years, with regard to vaccination, is of the highest importance, and I do hope that the medical officers will continue in the same useful line of inquiry. The public have a right to look to them now for evidence of the test of vaccination that time gives, as they had a right at first to expect of Dr. Woodville the test he resorted to. So long as the results of their inquiries are confirmed by the returns of a large body, such as the army, by the careful inquiries conducted in the British Islands, such as those at Ceylon, and the experience of the Continental States, the shafts aimed at them from Cheltenham must fall powerless.

It is quite time that the subject ceased to be a party question; it has been conducted on all sides from the first in a way quite unworthy the high character awarded to Englishmen for their candour and honesty in scientific research.

For myself, with evidence before me that vaccination affords almost complete protection against small-pox in the early period of life, and that 10 per cent. only have died in the Small-Pox Hospital in the worst year yet record-

ed*, and 12 per cent. in the British army, whilst in the unprotected 30 per cent. at least die; I think we have every reason still to place the greatest reliance on vaccination, and ought to endeavonr to find out a means of protection after puberty, equal to that given in early life. I find fault with the Vaccination Report of the Provincial Association because it is not marked by that freedom from bias which ought to have distinguished a production emanating from a body of professional men, delegated to examine a great pathological question.

When unfair attempts are made to bolster up a cause—it matters not whether it be that of vaccination or any other, persons are apt to suppose that there is something wrong about it, or its advocates would feel confidence in allowing it to rest on its own merits. Vaccination is still a very great blessing, when shorn of all the false attributes that its injudicious friends of Cheltenham have given to it, such as the good sense of Jenner I am sure would not have allowed, had he lived at this period, and it may well be doubted whether they have not done the cause of vaccination more harm than good, by exaggerating the real amount of protection that it affords.

The writers of the Report have not only failed to give any collective account of persons attacked by small-pox after vaccination, in the provinces of England, and the rate of mortality deduced therefrom, but they have tried very unwisely to make it appear that small-pox is as frequent in its occurrence after small-pox as after vaccination (page 66 and elsewhere).

They have given several very loose statements to sustain their position, none of them evidently collected with that care which ought to have been bestowed on a subject brought forward against a generally received opinion, and one which I hesitate not to say, upon a tolerably extensive acquaintance with the subject, is a correct one, viz. that a second attack of small-pox is comparatively of rare occurrence, and one that ought to be considered an exception to the general rule.

The writers of the Report have given an account, by mistake, of 297 persons at Norwich who had small-pox a second time; this error has already been pointed out, but coupled as it is with the bias of the writers, it ought to have been mentioned at the same time that they have actually stated in what way these patients had the disease, which could not have been an error in quotation. They wish it to be believed that this mistake is the only one in the Report, a point that I by no means cede to them. At page 35 they make a mistake of 7 patients in their enumeration, and at page 47 another mistake of 19, and again at page 65 there is a slight error in the return from Edinburgh.

Dr. Gregory has very properly remarked, in one of his letters in the Gazette, that undue stress has been laid in the Report on the recurrence of small-pox. So I should say, and I would cite the return of Mr. Goolden of Maidenhead, as an example: he says (p. 66) that "he has seen between 80 and 90 cases of small-pox after small-pox." Now I have examined returns of several thousand cases which have occurred at Ceylon, the London Small-Pox Hospital, the Royal Military Asylum, &c. and find that $5\frac{1}{2}$ in a 1000 have small-pox a second time. Granting this to be correct, and as taken in the mass it doubtless is, or nearly so, it follows that Mr. Goolden has seen between 15,000 and 16,000 cases of small-pox, which in forty years, the time he has been in practice, I find exceeds by about one half the number admitted, in the like period, at the London Small-Pox Hospital*.

The fair advocates of a cause, more particularly a scientific one, not merely matter of opinion, but admitting of demonstration, state openly both sides of the question. Have the triumvirate of Cheltenham done so in preparing their Vaccination Report? I answer no, without fear of contradiction, or they would have given us the returns from different parts of England, as well as the extensive information collected by Dr. Heim in Germany, by Dr. Möhl in Copenhagen, by Dr. Kinnis in Ceylon, and that at the Small-Pox Hospital in London, agreeing as these reports do in

* See Report from Small-Pox Hospital, Med. Gaz. Vol. xxiii. p. 763.

* See Report on Small-Pox Hospital, in Parliamentary Returns, 1826, and Med. Gaz. annually since.

the essential points of their results, and affording altogether a larger body of evidence on the true protection given by vaccination than can be found elsewhere at the present time in the world. This information, too, be it remembered, collected by individuals holding public appointments, under the controlling eye of their colleagues and other professional brethren always about hospitals, and the particulars collected *gradatim*, and entered in the registers as the cases present themselves; and when thus fully considered are less likely to be prejudiced than reports from individual practitioners.

I have taken considerable trouble to examine the returns made at various periods from Denmark, Sweden, Würtemburg, Ceylon, the London Small-Pox Hospital, and the British army, and find that there is an average mortality of 8 per cent. from small-pox after vaccination; the mortality varying with the violence of the epidemic of late years between 4 and 14 per cent.; but it would no doubt be much greater during a very fatal epidemic, such as those of 1781 and 1782, and 1821. The Registrar-General reports, that in the first half year of registration of deaths in England and Wales, 5811 died of small-pox; this doubled for the year makes 11,622. For many years past the mortality in the Small-Pox Hospital amounts, on an average, to 25 per cent., or a fourth of all admitted, vaccinated and unvaccinated. Thus, then, if we multiply 11,622 by 4, we get 46,488, the number of persons attacked by small-pox in England and Wales in the first year of registration. During a series of years about 40 per cent. of all patients received at the Small-Pox Hospital have been vaccinated; and this might be supposed to be about the number protected by vaccination in England at the adult period of life, allowance, of course, being made for the upper and middle classes, who are nearly all protected by vaccination, and who do not apply to hospitals in case of illness, but who are, nevertheless, liable to small-pox after a few years, as well as their poorer brethren who have been vaccinated, as many living can testify. It will be observed, on the one hand, that not many children are received into the hospital, and, on the other, that the patients are usually of the poorest class, and the least likely, in a mass, to be protected by vaccination. The short statement of Mr. Dodd, of Chichester, in the Vaccination Report, one of the secretaries of the Provincial Association, may be considered in a great measure to confirm this statement from the Small-Pox Hospital. Mr. Dodd gives the particulars (page 47) of 220 cases (so far as I can understand from the careless way in which the Report has been got up), and of these 116, or rather more than half, had been vaccinated. Hence it may be supposed, in the absence of more accurate information, that from 40 to 50 per cent. may be about the number vaccinated in England: this return of Mr. Dodd's, and the account of the experiments of Mr. Ceely, being nearly the only things of real value in the Report.

As small-pox was epidemic in England in 1837 and 1838, it would have been very interesting to have known the numbers attacked by small-pox after vaccination in the first year of registration, and the proportion of severe and fatal cases. This information could have been supplied, in a great measure, by a well-organized Provincial Association. We should soon then arrive at "the real merits of vaccination," which, with all deference to Dr. Conolly, I beg to say we have not yet arrived at.

It is proved, then, I think, beyond doubt, that the Report of the Vaccination Section of the Provincial Association cannot be referred to as an authentic document, because of its numerous and palpable errors, to say nothing of others, from the specimens I have given, which may reasonably be presumed to exist.

I shall now take my leave of you, with many thanks for your impartiality in inserting these letters. Enough has been said, I hope, to prevent the Report from misleading the profession on points of practical importance. If I were inclined to say more about it, I should offer my dissent altogether from the opinion given at pages 71 and 72, on the subject of re-vaccination.

I have the honour to be, sir,

Your obedient servant,

SCRUTATOR.

London, Nov. 25, 1839.

EGG AND FLOUR SPLINTS.

To the Editor of the Medical Gazette.

Sir,

Having read in the "Lancet" of Oct. 26, under the title "St. Bartholomew's Hospital," some observations upon the application of the "Immoveable Apparatus," I think it as well (if you will permit me through the medium of your valuable journal) to guard those who may have perused the paper alluded to, against placing *entire reliance* upon all therein contained, inasmuch as they may, by so doing, run considerable risk of causing their patients not only great suffering but subsequent deformity of the fractured limb.

It is not my intention, on this occasion, to enter into any discussion upon the applicability of the immoveable apparatus, neither do I desire to quarrel with the general observations of the anonymous writer, but I must differ with him as regards the term he applies to the preparation of egg and flour, as usually employed at St. Bartholomew's Hospital, in the formation of the above mentioned apparatus; and more especially as regards the preference he gives to other compositions.

The few remarks I intend to make, should they, through your kindness, become public, I consider of no small importance, since I flatter myself that they may be of some benefit to those who have seen as yet little or nothing of this mode of treating fractures.

Allow me to say that I have drawn the following conclusions from the experience I have had, and the favourable opportunities that have fallen in my way of watching the operation of the immoveable apparatus as variously prepared.

I do, then, unhesitatingly pronounce the splints, formed by a composition of egg and flour (and which is by no means "a nasty mess," when used by those who are tolerably apt with their hands), as by far the most fitting for supporting fractured limbs; moreover, should this composition be "a nasty mess," I should still urge upon those who are inclined to follow this practice of treating broken bones, its great superiority over all others, and for the following most important reasons: viz. that the splints thus made retain their shape, solidity, and stiffness, both against heat and moisture, much longer than those formed by any other preparation.

It might be asked, where is the danger of splints becoming softened by either heat or moisture in cases of fracture, unless purposely applied? To which query I may give the following answer: that I have seen more than one case in which a simple fracture became compound; great displacement of the fractured bones, and ultimately considerable deformity of the limb; accidents which followed solely in consequence of the splints becoming completely softened by perspiration; the said splints being in one instance composed of starch and isinglass, in another of gum and whiting, and in both instances rollers soaked in starch were applied around them, thus fixing them firmly upon the limb.

I may further state that I have subjected pieces of bandage, soaked in these various preparations, both to heat and moisture, and I can safely assert that those (as I have before said) composed of egg and flour, and for which I am a decided advocate, withstand both processes much longer than any other preparation hitherto employed.

Such being the fact, this composition must be allowed to be the best suited for the formation of splints, and highly beneficial in many cases, the applicability of which depends upon their solidity and close and careful adaptation to the injured limb.

Apologizing for occupying so much of your valuable space,

I am, sir,

Your obedient servant,

Benjamin Barrow,

House Surgeon to St. Bartholomew's In 1837 and 1838.

5, St. James's Place, St. James's, Nov. 9, 1839.

DYSMENORRHŒA,

ACCOMPANIED BY INFLAMMATORY CONGESTION OF THE CERVIX UTERI, EFFECTUALLY RELIEVED BY SUPERFICIAL SCARIFICATION OF THAT PART.

To the Editor of the Medical Gazette.

Sir,

I am anxious to communicate the following case, and its treatment, as I have

reason to believe that the scarification of the cervix uteri, in these painful cases, is nearly, if not entirely, an original suggestion, especially with regard to abstracting from it a definite quantity of blood. Dr. Ashwell saw the case with me, and was much pleased with its effects. He requested that the operation might be repeated as circumstances required.—I remain, sir,

Yours respectfully,

J. L. FENNER.

15, King's Row, Pentonville,
Nov. 9, 1839.

Mrs. ——, a widow, æt. 39, had been long afflicted with dysmenorrhœa, accompanied with inflammatory congestion of the uterus, dating its origin many years since, from a severe and protracted labour. The nervous system was so entirely implicated in this affection, that the superior and inferior extremities, as well as the body, were continually agitated by a species of chorea. She was passing through a three months' course of mercurial friction, and had found no relief from opium or any kind of narcotics. Leeches alone, applied round the cervix uteri, had palliated her sufferings, and these acted like enchantment, dissipating every symptom, and, after restless nights, producing a calm refreshing sleep of some hours' duration.

Nov. 1, 1839.—Appreciating the relief obtained from the abstraction of blood, and its tendency to remove congestion, it struck me as quite practicable, aided by my cylindrical tubular speculum (described in the MEDICAL GAZETTE, May 25, 1839, and may be seen at instrument makers), easily to abstract, by slight scarifications of the cervix uteri, any quantity I might think desirable. After a few superficial scarifications the blood trickled freely, and, in a quarter of an hour, two ounces and a half (by weight) were obtained, and the tube withdrawn, when the bleeding immediately ceased. Precisely the same relief followed, with uninterrupted sleep, as was wont to result from the application of leeches. The patient said that the operation was so painless that it would not even have disturbed her sleep. Dr. Ashwell saw the patient with me, and requested that the operation might be repeated, as it seemed to have been very beneficial.

2d.—Two ounces and a half of blood were obtained under the same circumstances.

3d.—Three ounces and a half of blood.

5th.—The cervix uteri having many marks of scarification, the tube was withdrawn a little, so as to expose the *cul de sac* of the vagina. Scarifications were made, presuming that it would bleed freely, because to that part of the vagina leeches have been applied by tubes perforated at the end with holes, and unscientifically thrust up the vagina; but such tubes cannot be duly applied to the cervix uteri, though sometimes to a portion of its side. The blood trickled freely, and in a quarter of an hour four ounces (by weight) were obtained, with the same relief as by leeches.

9th.—The patient having obtained more decided relief than on any former occasion from the application of leeches, the scarification is to be resumed as occasion may require, and the mercurial friction to be continued to the given time.

I have performed this operation on two other patients, and, since writing the above, have abstracted five ounces of blood (by weight) from the cervix uteri.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Changes produced in the Nervous System by Civilization, considered according to the Evidence of Physiology and the Philosophy of History. By ROBERT VERITY, M.D., &c. Second Edition, enlarged. London, 1839. 8vo. pp. 143.

THIS work may be considered as a short essay on one point in the philosophy of history, namely, the progress of civilization. One race of man mingles with another, and by intermarriage, peaceful emulation, or even hostile collision, they improve in talent and virtue. According to Dr. Verity, their brains improve with their characters; and he speaks of a deficiency of formative power which "resided in the intellectual and huma-

nitary nature of ancient society; a deficiency perfectly conformable to corresponding wants in the Roman, Greek, Egyptian, and Hindoo types of cerebral system, namely, their inferiority to the Germanic type in the upper convolutions, and coronal region of the brain." —P. 21.

Moreover, as there has been a change of temperament in the mass of society, the nervous now bearing a greater proportion to the vascular system than it formerly did, the medical axioms of remote ages cannot be applied without modification in the present times. It strikes us that an exclusive devotion to Hippocratic or Galenic modes of practice is by no means the error of the day. Yet this warning may be useful to those who disregard the temperament of the patients for whom they prescribe, and practise upon a lymphatic constitution as if it were a sanguine one. The errors of Broussais arose, according to Dr. Verity, from his having been an army surgeon; so that he used the same method of depletion with the feeble citizen which succeeded so well with the stout soldier.

There is not much physiological matter in our author's book: the following passage, however, comes under this head:—

"It has now, indeed, been fully established by the researches of modern physiologists, that the visceral ganglionic system, the medullary columns of the spinal cord, the annular protuberances, and other cerebral ganglionic expansions, together with the numerous complex formations at the base of the brain; that the cerebellum, and the middle and posterior lobes, with but a rudimental or deficient expression of the anterior ones, and of the upper convolutions of the hemispheres, are those parts of the nervous system which, subserving chiefly muscular and animal activity, predominate and characterize the lower exemplar of type. The base of brain predominates.

"Such are the brains of savage tribes, and the degraded characters of even civilized populations; such also are the brains of those found in the prisons, at the gallies, and the penal colonies, &c."

This seems natural, but where are the data to be found? Who has dissected the brains of fifty convicts, and compared the size of the lower parts with that to be found in the brains of fifty honest men?

On the whole, Dr. Verity's essay has its merits as a rapid sketch of the history of races; but it would be much improved if the style were more simple, and the facts given more in detail.

The Modern Treatment of Syphilitic Diseases, both Primary and Secondary: comprising an Account of the New Remedies, with Numerous Formulæ for their Preparation and Mode of Administration. By Langston Parker, M.R.C.S. &c. London, 1839. 12mo. pp. 158.

This little work is a useful compendium of the practice of some French surgeons, chiefly Ricord, Cullerier, and Desruelles, in the venereal disease; but the author frequently gives the opinions of the late Dr. Wallace, and sometimes his own, so that the treatment is not exclusively French. The sections on the non-mercurial treatment of syphilis will be especially instructive to English readers. Mr. Langston Parker himself appears to be a moderate mercurialist: we confess ourselves to be extremely moderate ones; so much so, as to be somewhat cooler than lukewarm: and when we read, as we do in our author (p. 18. note), of one practitioner who thinks that a mercurial course should last twenty-five or thirty days, and of another who says that moderate ptyalism should be kept up for a month, we begin to think of Le Sage and Moliere, and of the adage which speaks of remedies worse than the disease.

The following is an account of one of the new remedies, with the forms of its administration in syphilis.

The Cyanuret of Mercury.

"The cyanuret of mercury is now frequently employed in preference to the bichloride, and for the following reasons. It is more soluble and not so liable to decomposition, acts more quickly, and does not occasion those pains in the stomach and bowels that so frequently accompany the prolonged administration of the bichloride. According to the researches of M. Parent*, the cyanuret of mercury is not decomposed by either acids or alkalis, nor by decoctions containing azotised principles or gallic acid.

* Revue Médicale, Août, 1832.

The cyanuret of mercury may be administered internally in pills, or in solution, and used externally in the form of pommade or ointment. M. Cullerier employs the cyanuret in primary syphilis. Externally it is an extremely useful application to various forms of herpes, particularly that form termed by Alibert "herpes squamosus," the violent itching and irritation of which it allays. It may be employed externally also as a dressing to indolent syphilitic ulcers, and scirrhous tubercles, or as a gargle in ulcerations of the throat. The dose of the cyanuret is from 1-16th of a grain to a grain.

Gargle of the Cyanuret of Mercury.

℞. Hydrargyri Cyanuret. gr. x.
Infus. Lini Comp. ℔j. M.

Pills of the Cyanuret of Mercury.

℞. Hydrargyri Cyanuret. gr. viij.; Pulv. Opii, gr. xvj.; Ext. Guaiaci, ʒij. M. ft. Pil. lxiv. Capt. 1 ter die.

Ointment of the Cyanuret of Mercury.

℞. Hydrargyri Cyanuret. gr. xij.; Adipis, ʒj. M. ft. Unguentum.

Solution of the Cyanuret of Mercury.

℞. Hydrarg. Cyanuret. gr. vj. ad gr. x.; Aquæ, ℔ j. M.

Half an ounce for a dose, administered in a mucilaginous vehicle or with the addition of sugar in form of syrup.

M. Parent's Cyanuretted Pills.

R. Hydrargyri Cyanuret. gr. xxiv.; Ammoniæ Muriatis, ʒiij.; Guaiaci Gummi, ʒiij.; Ext. Aconiti, ʒiij.: Ol. Anisi, ♏. xxiv. M. Mucilagini, q. s. ft. Pil. 400.

One or two twice or three times a day, the dose gradually increased. Each pill contains about 1-16th of a grain of the cyanuret. These pills are a substitute for the bichloride of mercury in many forms of secondary syphilis.

Another form of M. Parent.

R. Hydrarg. Cyanuret. gr. vj.; Opii, gr. xij.; Micæ panis, q. s. ft. Pil. xcvj.

Each pill contains 1-16th of a grain of the cyanuret adapted to forms of primary syphilis. The dose of one or two pills twice a day in the commencement and gradually increased.

We do not know whether the following formulæ will really cover the hateful taste of capivi, or whether, after all, one must have recourse to the *capsules gélatineuses.*

Mixtures.

R. Balsam. copaibæ, ʒj.; Mucilaginis gummi acaciæ, ʒij.; Vini Xerici, ʒiv. M. (Val de Grace.) A fourth part twice a day, or more frequently.

R. Balsam. copaibæ, ʒj. ad ʒij.; Aquæ, ʒiv.; Vitelli ovi, No. 1.; Liq. opii sedativ. ♏. x. ad xx. M.—*Cullerier.* The quarter part, or more, night and morning.

℞. Balsam. copaibæ.; Syrup. tolutanos.; Mucilaginis gummi acaciæ, aa. ʒj.; Aquæ rosæ, ʒiij.; Sp. ætheris nitric. ʒiij. The quarter to the half, night and morning.

℞. Aquæ menthæ pip.; Sp. vini rect.; Balsam. copaibæ.; Aquæ aurantii, aa. ʒij.; Sp. ætheris nit. ʒj. M.—*Chopart.* Two large spoonsful, three times a day.

R. Resinæ copaibæ.; Sp. vini rect.; Syrup. bals. tolutan.; Aquæ menthæ pip.; Aquæ aurantii, aa. ʒij.; Sp. ætheris nit., ʒij. M.—*Chopart.* Three or four large spoonsful, night and morning.

Pills.

℞. Sapo. Hispaniolæ, ʒij.; Balsam. copaibæ, ʒj.; Pulv. glycyrrhizæ, q. s. ft. pil. 120. Dose.—From 15 to 40 a day, at intervals.

℞. Ext. catechu, ʒss.; Bals. copaibæ, ʒiij.; Terebinthinæ chiæ, ʒj.; Sanguinis draconis, ʒss. M.

To be made into pills or boluses of ten grains, from ten to thirty of which are to be taken daily, at intervals."

We omit, for want of room, other forms containing cubebs and capior in combination, a syrup of cubebine (or rather extract of cubebs), and the lozenges of the same.

The diction of this work is in general good, though sometimes betraying marks of its French origin. "Syphilographers" is a bad word for "writers on syphilis;" and "nitrated acid of mercury" (p. 83, note) is wrong; it should be "acid nitrate of mercury," *i. e.*, supernitrate of mercury. Mr. Langston Parker's book is judicious and well-timed, and will save many practitioners from the erroneous dulness of routine.

A Treatise on Obstetric Ascultation. By Dr. H. F. Naegele. Translated from the German, by Charles West, M.D. Graduate of the University of Berlin. London, Renshaw, 1839. 12mo. pp. 120.

When we consider the difficulties that often exist in determining the important fact of whether a woman is or is not pregnant, it must be a matter of some surprise that the subject of obstetric auscultation has met with so little attention from practitioners of midwifery in this country. By the German and French writers much valuable information has been afforded, which proves, upon evidence that cannot be doubted, that if the use of the stethoscope does not, and perhaps cannot, demonstratively determine the existence or non-existence of pregnancy in all cases, it will, in the very great majority, leave but little doubt upon the mind of any man whose ear has been well practised to the use of the instrument. Feeling as we do the great importance of this modern mode of investigation, and knowing its real value from our own experience, we cannot but regard the translation of Dr. Naegele's work by Dr. West as a very useful addition to our literary stock. It possesses the rather unusual advantages, from a German writer, of being concise and entirely practical. No speculations are introduced to interrupt the brief and clearly related conclusions derived from the use of the stethoscope in six hundred cases, and therefore we can recommend it to the attention of either students or practioners. Dr. Naegele considers it a matter of indifference as to what kind of stethoscope is employed. An unpractised examiner should take care that the room is perfectly quiet, and the period of digestion should be avoided by the beginner, as the noises then heard in the intestinal canal are very likely to disturb and perplex his ear. The patient should generally lie upon her back, and be thinly clad. For the terms *bruit placentaire*, *souffle placentaire*, &c. Dr. N. prefers, and upon very good grounds, the expression of "uterine sound," which his experience has taught him is seldom sufficiently distinct to be clearly recognized before the fourth month of pregnancy. It was audible in 20 of 35 patients at the 15th week of utero-gestation: in 3 only at the 14th week. Sometimes it cannot be distinguished till the beginning of the fifth month, but it can always be heard several weeks sooner than the pulsations of the fœtal heart. The sound which proceeds from the fœtal heart consists of a rapid succession of regular short pulsations, generally about twice as quick as the adult heart. The frequency of the fœtal heart's pulsation, as deduced from a comparison of 600 cases, averages 136 strokes in the minute. It sometimes sinks to 90. Various and satisfactory proofs are given that considerable alterations may take place in the circulation, without at all influencing either the strength or the rhythm of the pulsations of the fœtal heart. In natural labours the action of the fœtal heart undergoes no evident alterations either in the force or in the rhythm of the pulsations. After the ruptnre of the membranes the pulsations become more distinct, because the uterus now envelops the fœtus closer, and the sound is more clearly conveyed to the ear. In the early stage of pregnancy the sounds produced by the movements of the fœtus may occasionally be distinguished as gentle taps repeated at intervals. These sounds may be distinguished several weeks, Dr. N. assures us, before the mother becomes conscious of the motion of the child, and earlier than the pulsations of the heart, or the uterine souffle. Certain sounds produced by the umbilical cord are also noticed. But although the pulsation of the fœtal heart cannot be distinguished till a later period than the other signs of pregnancy detected by an auscultation, it is the most valuable of all, as it is evident when the proofs which manual exploration affords are either absent or inconclusive; and it is so readily perceived that even the unpractised ear usually detects it with ease. In the first stethoscopic examination we ever made, we had a proof of this fact; for we found no difficulty in hearing and counting the pulsations of the fœtal heart. The patient was at the fifth month of her pregnancy. We place the more confidence in Dr. Naegele's statements and opinions, because we do not find him "run riot" in praise of obstetric auscultation to the exclusion of other modes of examination. "Auscultation can never supersede manual exploration, nor render it unnecessary: the former is a valuable auxiliary to the latter, and the results obtained by combining

both, assist us in arriving at definite conclusions." As it is not our wish to supersede the necessity of perusing the work itself, by giving a detailed abstract of its contents, we close our notice of it, by assuring our readers that they will find it to contain a clear and concise account of all the practical points connected with the subject.

A few Minutes' Advice to Deaf Persons. By a SURGEON AURIST. London, 1839.

AFTER all, reviewers are necessary evils—middlemen required by the frailty of human nature between writers and buyers of books. What numbers of readers we shall save the trouble of finding out that the hundred and ninety-six little pages before us contain scarcely two minutes' advice to the deaf, the bulk of the book being merely a critique on other ear doctors. When our author attacks the common herd of advertising aurists, he is in the right, generally speaking, though we cannot say that he wields the critical knout with much dexterity. But when he runs a-muck against Kramer of Berlin, it strikes us that he runs against a stone wall; for instead of saying with our author, that Kramer "appears desirous of raising himself to eminence, in the opinion of the popular world, by depreciating every other practitioner" (Preface, p. vi.), we should boldly affirm that he is desirous of raising himself to a high station in the medical commonwealth by a scientific treatise on deafness; and that he has succeeded in doing so.

Our author says, when talking of Deleau, "Probably if him, Kramer, and some of their imitators, were to read with attention the dialogue between Hotspur and Owen Glendower, in the works of our immortal bard, it might teach them to be less egotistical." (pp. 84, 85.) And then follows a quotation, "Know that at my birth," &c. Now, as it does not appear that either of these aurists asserts that his birth was signalized by an earthquake, we fear they might both read both parts of Henry IV. smack through, without any lessening of their self-approbation. If your ordinary ear-doctors, whose names are to be found on walls and palings, but not in the Temple of Fame, are to be reformed by quotations from Shakspeare, we should rather cite the passage where Macbeth speaks of certain juggling fiends,

> "That keep the word of promise to our ear,
> And break it to our hope."

Had the author subjected this work before publication to the revision of some literary friend, its style and grammar might have been much improved.

Elements of Natural Philosophy, being an Experimental Introduction to the Study of the Physical Sciences. By GOLDING BIRD, M.D. F.L.S. F.G.S. &c.

WE are not aware of there having hitherto been any treatise on natural philosophy in the English language sufficiently simple and elementary for the student, with the exception of Dr. Arnott's Elements of Physics, the first part of which we introduced to our readers in one of the earliest numbers of our first volume, and which, we regret to say, at this very long interval of time, remains still unfinished. The appearance of Dr. Bird's work, however, renders this less a matter of regret, as the student has now all that he can desire in one neat, concise, and well-digested volume. The elements of natural philosophy are explained in very simple language, and illustrated by numerous woodcuts, so that the student who but gives his attention to the subject can have no difficulty in fully understanding it. The volume is, moreover, provided with an excellent index and an analytic table—no mean recommendations. There are a few errors of the press, which the student would do well to correct from the list of errata before he begins his perusal.

MEDICAL GAZETTE.

Friday, November 29, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

MEDICAL ETIQUETTE.

THE anecdote books of the last century inform us that when a stranger enters a room, the first question asked about him varies according to the country in which the room happens to be situated. Thus in Germany people used to ask whether

he was of noble descent for sixteen generations, in Holland whether he was solvent, in France whether he was received at court; and in England the prosaic question was, "how much has he a year?" These distinctions are instructive, and bear the stamp of truth. An obvious corollary which flows from them is, that in the Germany and France of that age, a formal treatise on etiquette would hardly be wanted; or, at least, would be much less required than in England and Holland. For if society is divided into two classes only, the *gentilhommes* and the *roturiers*, each man from his birth naturally falls into the usages of the great division to which he belongs; and as there are but two classes, patrician and plebeian, manners will necessarily stand out in strong contrast to each other. The few who are raised from the *plebs* to the *gentes* will obtain some grave advice as to behaviour from their peers, and the changes required by their elevation are so clear and indisputable, that they will need no half-crown monitor, by way of flapper, to awake their attention.

In England, on the contrary, instead of two classes, there are a dozen, and almost as many standards of politeness. The ingenious but hasty author of the Bubbles from the Brunnens of Nassau, mentions several of these subdivisions; such as stumpy old-fashioned English manners, black-stock military manners, and others; each school even giving its own peculiar tinge. Now, amid such an anarchy, or rather such a variety of governments, it is necessary for a well-meaning man to obtain the code which governs any new society he enters, lest he should offend in tone, gesture, or dialect. Hence in this country we have long had manuals of politeness; and unless we make allowance for the internecine war waged between different coteries, and the relics of antique rusticity which may still have survived in some of them, certain precepts and warnings would not fail to surprise us. Thus we find no less a man than Lord Chesterfield cautioning his son against the manners of the school to which he was sent, and telling him in writing not to pick his teeth with his fork. In a manual published some forty years ago (we believe by Dr. Trusler) the reader is taught to ask the lady of the house at dinner to take wine, and other elementary matters of a like nature; the book having probably been written at a time when national prosperity was pushing up masses of the people into a higher segment of the social circle, and the *ci-devant* journeyman spinner found himself not quite at his ease as a master. Now if any section of society requires a hand-book for its own peculiar instruction, it is our profession. Time, and the progress of events, have changed its position in the state, and its new place is scarcely fixed. Add to this, that the relative situation of its members is unsettled, and you will have a fine field for a medical legislator, a teacher of minor morals. *Exoriare aliquis.*

Some one indeed has arisen,* but we have our doubts whether he is quite equal to the task which he has imposed upon himself. In the first place Mr. Banks is somewhat fretful and impatient, and forgetting that he is writing on etiquette, occasionally talks as if he was chastising a felon.

In his chapter on village and provincial etiquette he speaks of certain scoundrels who ought to be stripped, and in Shakspearian phrase, be lashed naked through the world, by whips in the hands of honest men. Indeed, Mr. Banks! We should have thought that any the greatest breach of etiquette would have been punished enough and

* Medical Etiquette; or an essay upon the laws and regulations, which ought to govern the conduct of members of the medical profession in their relation to each other. Compiled exclusively for the profession. By Abraham Banks, Esq., M.R.C.S. &c. London, 1839. Small 8vo. pp. 104.

to spare by an oblique whipping through the Russian Empire—say from Riga to Odessa, and that these tremendous Shakspearian lashings should be reserved for very black offenders. The fact is, that Mr. Banks constantly encroaches on the domain of medical ethics. Perhaps we ought not to blame him for this, as he gives some warning of his intention in the title-page; but we blame him for being angry so often, as he certainly diminishes thereby his powers of persuasion; and we wish he had not passed over so many points belonging to etiquette in the strictest sense of the word, from the belief that they were too trifling to deserve notice. Nevertheless, we thank him for his book, for it will draw attention to an important subject; Rome was not built in a day, and it was not fated that a code of medical etiquette should be constructed in the first foolscap octavo put forth upon the topic.

Let us now come to particulars, and with the assistance of Mr. Banks, let us discuss a few points of professional etiquette.

The first question mooted is, what is to be done with the fee, when one practitioner attends for another, particularly at a labour. The author thinks the fee should be halved, one part being given to the practitioner who was engaged to attend the case, and the other to the one who really did. We see no objection to this method; but we do not agree with Mr. Banks when he proposes that in this bipartition no fee is to be recognised below one guinea, or above two. He observes that some practitioners attend for nearly as few shillings as others do for guineas, and thinks it unfair that he who may have paid two or three guineas to his deputy should receive a crown or less, when in turn he is the substitute for his friend. But the truth is, that in proportion as the pay is higher, the qualifications demanded are higher likewise; so that if Titius, being unable to go to a ten-guinea labour, chooses Caius as his deputy, he shows as plainly as actions can speak that in his opinion Caius is qualified to act as accoucheur in the houses of the more refined part of society; and these merits would be insufficiently rewarded by the half of two guineas, the highest fee recognized in the proposed scale. It is not very probable that when Caius in turn is unable to go to a ten-shilling labour, he will select Titius as his substitute; but if he did, it would be less mortification to the higher practitioner to attend a labour, once, for five shillings, than by the proposed arrangement it would be for the minor accoucheur to get only a tenth of the fee, instead of a half, merely because it was a good one. The next difficulty that Mr. Banks tries to smooth down is, that which arises when one general practitioner being already in attendance, another is called into consultation. In this case it sometimes happens that the second practitioner gives his advice gratuitously, which is not so pleasant as might be; and sometimes the second is paid like a physician, receiving his guinea, while the original attendant gets half-a-crown. The author thinks this "monstrously absurd" and unfair towards the first practitioner; "why," he asks, "should two men holding the same rank, possessing the same legal qualifications, the actual experience and knowledge pretty equally balanced, be placed in such different positions?" The obvious answer is, that the public do not much care for legal qualifications, and that the friends of the patient, when they call in the second practitioner, do not believe him to be on a level with the first one in acquirements, but infinitely superior. It would, no doubt, be much pleasanter for practitioner 1, if No. 2 had been a physician, or pure surgeon, as is the case ninety-nine times out of a hundred; but when, that single hundredth time, the second practitioner is of the same nominal rank

as the first, the sick man and his family consider him as essentially of a very different one; they do not look into any printed list for his name, but "read his glories in an outskirt's eyes!" Nay more, it may happen, says angry Mr. Banks, that the second practitioner may be the younger man of the two, but being in good circumstances, and practising as a physician, though not one by diploma, he is remunerated by fees; while his predecessor and fellow-attendant gets the amount of his draughts only. This he thinks "utterly farcical," and the sole remedy he can propose is, that the first practitioner is to require the same fee, and at the same time, that the second one receives it; "and this, too, whether that other be a regularly qualified physician, or simply practising as such, under the feigned title of surgeon." We fancy that Mr. Banks does not here mean what he says; and that by "a regularly qualified physician" he does not intend one practising solely as a physician, but rather a general practitioner who happens to have a diploma. But, in any case, his rule is a bad one, and almost impossible to put into practice. It would be much easier to insist upon it that the first practitioner should in every case have a vote in the choice of the second, as he generally has, in point of fact, than to stipulate for immediate guinea fees, when the family expected merely the usual charges at Christmas. This bill will certainly not pass into a law. Moreover, Mr. Banks "cannot resist the temptation of suggesting that years should be made the grand basis on which to found distinctions in the profession." But surely this is done already, to all reasonable amount. In no profession are grey hairs more respected than in ours. What more would any one wish? Why, Mr. Banks wishes, that as a certain age is requisite for examination at Blackfriars and Lincoln's Inn Fields, so, as men advance in years, they should be eligible for higher honours. We do not think that practitioners of a certain age would much thank our medical legislator for subjecting them to continual examinations; as life wears away, they are too happy to be allowed to let slip the class and order of digitalis, and the various methods of preparing tartar-emetic; these, they say, are sweet forgetfulnesses, the *jucunda oblivia vitæ!* They would add, that by the time they have arrived at forty or so, the profession and the public have given or withheld their certificates of competency, their diplomas of talent, without any need of going up to another board of examiners; and as for a testimonial of age, nature stamps that on the face and gait in very legible characters.

Moreover, practitioners who are tired of the drudgery of the profession, and think themselves qualified for the highest walk, may throw aside pharmacy whenever they please. The degree of M.D. is no longer necessary, and the late regulations of the College of Physicians offer special indulgences to those practitioners who have attained the age of forty.

Mr. Banks does not like young M.D.s. He will have it, that the "fact of a young man leaving a University to practise as physician, to teach his grandmother the elements of life, is as ridiculous as it would be to make him a commander-in-chief of an army, or admiral of a fleet."

Not so: if the green M.D. were made President of the College, the cases would be analogous; as it is, the resemblance fails. Besides, we humbly conceive, that if a man has made good use of his time up to six-and-twenty (the youngest age for a physician recognized by the College) he may teach ancient ladies "the elements of life," or the elements of physic, without infringing on common sense, or medical etiquette.

Lack of space compels us to stop, but we shall resume the subject.

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, Nov. 26, 1839.)

	Price.		Duty.	Duty Paid.	
				In 1839 to last week	Same time last year.
	£ s. d. to £ s. d.		s. d.		
Aloes, Barbadoes, D.P. c	15 0 0 to 30 0 0	B P. lb	0 2	117,677	98,329
Hepatic (dry) BD..... c	5 0 0 10 0 0	F. lb	0 8		
Cape, BD. c	3 10 0 3 14 0	F. lb	1 4	——	133
Anise, Oil of, German, D.P....lb	—— ——	E. I.	1 4	1,544	1,742
E. I. .....lb	0 5 0 0 5 6	c	6 0	20	60
Asafœtida, B.D. c	1 10 0 3 10 0	lb	0 1	11,360	6,470
Balsam, Canada, D.P. .....lb	0 1 0 0 1 1	c	4 0	597	520
Copaiba, BD. .....lb	0 2 6 0 3 0	lb	1 0	825	1,798
Peru, BD. .....lb	0 4 6 ——	c	4 0	108	103
Benzoin (best) BD..... c	25 0 0 50 0 0	c	1 0	442	524
Camphor, unrefined, BD..... c	13 10 0 ——	lb	1 0	15,166	13,288
Cantharides, D.P. .....lb	0 3 6 0 4 0	lb	4 0	987	1,298
Caraway, Oil of, D.P. .....lb	0 8 0 0 8 6	lb	0 1	3,096	4,579
Cascarilla or Eleutheria Bark, D.F.C.	3 10 0 ——	lb	1 4	2,661	4,083
Cassia, Oil of, BD.....lb	0 7 0 ——	c	1 3	6,005	5,158
Castor Oil, East India, BD.....lb	0 0 4 0 0 10				
West I. (bottle) D.P. 1½lb	—— ——	lb	0 6	629	782
Castoreum, American .....lb	0 17 0 0 18 0				
D.P. Hudson's Bay .....lb	0 18 0 1 0 0	c	1 0	44,724	33,274
Russian.....lb	none				
Catechu, BD. Pale c	1 1 0 ——	lb	0 1	49,679	106,738
Dark	1 7 0 ——				
Cinchona Bark, Pale (Crown)....lb	0 2 0 0 3 6	lb	0 2	9,513	13,183
BD. Red .....lb	0 2 0 0 4 0	lb	0 2	9,384	19,805
Yellow .....lb	0 4 0 0 4 4	lb	0 6	36,775	26,272
Colocynth, Turkey .....lb	0 1 6 0 2 9	c	4 0	50	90
D.P. Mogadore .....lb	0 1 0 ——	c	4 0	454	482
Calumba Root, BD. c	0 12 0 1 15 0	c	6 2	15	40
Cubebs, BD. c	2 10 0 ——				
Gamboge, BD. c	5 0 0 15 0 0	c	6 0	6,930	7,134
Gentian, D.P. c	1 6 0 1 8 0				
Guaiacum, D.P.....lb	0 1 0 0 3 0	c	6 0	6,670	6,249
Gum Arabic, Turkey, fine, D.P... c	11 6 0 ——	c	6 0	20,942	21,637
Do. seconds, D.P. .. c	7 10 0 ——	c	6 0	82	453
Barbary, brown, BD. c	1 17 0 1 18 0	lb	0 1	15,933	5,179
Do. white, D.P..... c	5 10 0 ——	lb	1 0	6,576	11,970
E. I. fine yellow, BD. c	2 5 0 2 14 0	lb	0 6	36,076	42,159
Do. dark brown, B.D. c	1 15 0 2 5 0	lb	0 3	12,735	11,842
—— Senegal garblings, D.P. c	3 6 0 ——	oz	6 0	1,892	2,256
—— Tragacanth, D.P. c	8 0 0 12 0 0	c	6 0	206	161
Iceland Moss (Lichen), D.P. ....lb	0 0 2½ 0 0 3	lb	2 6	478	740
Ipecacuanha Root, B.D. .....lb	0 1 6 ——	lb	1 0	35,269	27,853
Jalap, BD. .....lb	0 2 2 ——	lb	4 0	2,328	973
Manna, flaky, BD. .....lb	0 3 6 0 4 0	lb	0 1	303,763	370,739
Sicilian, BD. .....lb	—— ——	lb	1 0	21,598	34,432
Musk, China, BD. .....oz	1 0 0 2 0 0	F. lb	1 0	8,761	6,345
Myrrh, East India, BD. c	5 0 0 14 0 0	lb	1 0	4,258	4,598
Turkey, BD..... c	2 0 0 11 10 0	lb	0 6	106,037	108,611
Nux Vomica, BD.....lb	0 8 0 0 9 0				
Opium, Turkey, BD. .....lb	0 10 0 ——	lb	2 6	7,562	6,459
Peppermint, Oil of, F. BD.....lb	0 15 0 ——	E.I. lb	0 6	104,160	66,259
Quicksilver, BD. .....lb	0 3 10 ——	Other sorts	0 6	60,258	64,239
Rhubarb, East India, BD.....lb	0 3 0 0 6 0				
Dutch, trimmed, D.P. lb	0 4 0 0 8 0				
Russian, BD. .....lb	—— ——				
Saffron, French, BD. .....lb	0 17 0 0 17 0				
Spanish .....lb	0 16 0 0 17 6				
Sarsaparilla, Honduras, BD.....lb	0 1 0 0 1 9				
Lisbon, BD. .....lb	0 2 0 ——				
Scammony, Smyrna, D.P.....lb	—— ——				
Aleppo .....lb	0 18 0 1 0 0				
Senna, East India, BD. .....lb	0 0 3 0 0 4				
Alexandria, D.P.....lb	0 1 6 0 1 8				
Smyrna, D.P. .....lb	0 1 0 0 1 3				
Tripoli, D.P. .....lb	0 1 0 0 1 3				

‡§‡ BD. In Bond.—c. Cwt.—B. P. British Possessions.—F. Foreign.—D. P. Duty paid.

ON THE CEPHALIC GANGLION,

COMMONLY CALLED THE PITUITARY GLAND, AND ON ITS CONNECTIONS WITH THE NERVOUS SYSTEM OF ORGANIC LIFE.

By M. Bazin.

After an historical account of the researches relating to the connections of the pituitary gland with the filaments of the sympathetic, the author passes to the facts which he has observed.

"The filaments by which the cephalic ganglion or pituary gland is connected with the organic nervous system arise from the anterior and posterior aspects of the ganglion, from which they pass laterally to proceed immediately to the internal carotid artery, around which they wind, giving filaments to the carotid plexus. Several filaments thus anastomose with the net formed by the cavernous plexus.

The filaments arising from the anterior aspects of the cephalic ganglion, are the largest: they form a fasciculus two millimetres wide, which is produced by the union of the two principal trunks. Arrived at the internal carotid, in the level of the concavity of the curve which it makes to go to the brain, they form a small gangliform plexus. A filament given off by the anterior trunk turns round the anterior and external aspect of the internal carotid, and divides into two filaments, each of which passes to one of the opposite extremities of the carotidian or cavernous ganglion. This ganglion furnishes several filaments, which pass to the third pair, and go to the ophthalmic ganglion. Behind, the cavernous ganglion sends several filaments to another ganglion situated between the external surface of the carotid, and the first branch of the trifacial. The last ganglion gives several filaments to the outer surface of the carotid; others go to unite with a plexus situated between the third pair and the ophthalmic branch of the fifth; and this plexus gives two filaments to the sixth pair. The others go backwards, to what appears to us to be a true ganglion, situated in the internal surface of this first branch of the trifacial. The ganglionic plexus resulting from the union of the nerves coming off anteriorly from the cephalic ganglion, sends two moderate sized filaments over the concavity of the last curve of the internal carotid, which are connected on the one hand with the *nervi molles* of the cavernous plexus, and on the other with the large filament which the superior cervical ganglion sends under the lower and outer surface of the internal carotid. Other filaments proceeding from the anterior surface of the cephalic ganglion, and others still which arise on its posterior aspect, embrace, and twine round the carotid, and are also continued to the filament we have just pointed out.

I have discovered the same relations, only less complicated, between the cephalic ganglion (pituitary gland) and the superior cervical ganglion, in the eagle and the ostrich.—*Comptes-Rendus*, Oct. 21, 1839.

HINT TO CERTAIN CANDIDATES.

As a hint which may save our canvassing friends at the "Middlesex" some trouble, and perhaps turn their efforts into another channel, we have now to state, what we have for some time suspected—namely, that neither Dr. Watson nor Mr. Arnott intend to accept office in King's College Hospital.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Nov.* 26, 1839.

Age and Debility	25	Hæmorrhage	2
Apoplexy	1	Heart, diseased	2
Asthma	3	Inflammation	11
Cancer	1	Bowels & Stomach	3
Childbirth	3	Brain	3
Consumption	36	Lungs and Pleura	6
Constipation of the Bowels	1	Jaundice	1
Convulsions	18	Liver, diseased	1
Croup	3	Measles	5
Dentition	1	Mortification	3
Dropsy	9	Paralysis	3
Dropsy in the Brain	5	Small-pox	2
Fever	9	Tumor	1
Fever, Scarlet	15	Unknown Causes	68
Fever, Typhus	2	Casualties	12
Grout	1		

Decrease of Burials, as compared with the preceding week . . . 42

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Nov.	Thermometer.	Barometer.
Thursday . 14	from 45 to 52	29·89 to 29·92
Friday . . 15	49 55	29·89 29·79
Saturday . 16	50 56	29·78 29·86
Sunday . . 17	48 57	29·94 29·92
Monday . . 18	52 56	29·89 29·90
Tuesday . . 19	45 53	29·90 29 88
Wednesday 20	40 48	29·91 29·94

Prevailing wind, S.W.

Except the 20th, cloudy, with frequent showers of rain.

Rain fallen, ·935 of an inch.

Charles Henry Adams.

NOTICE.

Dr. Todd's lecture, which ought to have appeared in the present Number, has been unavoidably postponed till next week.

W. Ogilvy, Printer, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, DECEMBER 7, 1839.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.
Surgeon to the St. Marylebone Infirmary.

SUPPURATION.

Abscess *continued.—Treatment—General remarks—Acute—Chronic—Incision—Caustic—Seton—Trepan—Emetics.*

Fistula. — *Definition—Cause—Formation—Diagnosis—Pathological anatomy of—Treatment.*

Hectic Fever.—*Nature—Treatment.*

Treatment.—Abscesses may be absorbed; we have abundant evidence of this fact. It is important to ascertain under what circumstances this phenomenon has happened, as we may be enabled to excite, artificially, a similar condition in the economy, and in this way obtain similar results. They have disappeared apparently under the influence of a profuse diarrhœa, suddenly occurring, of a profuse perspiration, and of other analogous secretions. Under the influence of one or other of these conditions this desirable conclusion will now and then happen; the pains of spontaneous or artificial opening, the dangers of profuse suppuration, are spared, and with these the avoidance of a deformity in the shape of a cicatrix, are matters of great importance. What nature has thus occasionally done, art has endeavoured, with some success, to imitate; drastic purgatives, diuretics, and sudorifics, have been exhibited with the same intent. Certain local applications are also employed for the same purpose: stimulating frictions, blisters, or pressure, will occasionally succeed where the disease is inactive. These means are rarely of any use in acute abscess, which usually runs its course to opening. If the parietes of a chronic abscess be thick and highly organized, we shall rarely succeed in removing it by these remedies. Those upon which we sometimes act with success are such as appear suddenly, and without very decided inflammatory action, and in exhausted or scrofulous subjects. But to obtain this desirable object much caution is required; if the gastro-intestinal system be already irritable, it would be clearly unwise to exhibit drastic purgatives, or we should probably render matters worse. Under almost any circumstances it is a system which, if it do not succeed, may make the patient's condition worse than it was before; in fact, it is a "double or quits" practice, which should only be used with much reserve. If the first efforts upon the stomach and bowels, the kidneys or skin, are without effect on the tumor, and more especially if the stomach appear unlikely to support their action, they should be abandoned. Stimulant local applications will sometimes succeed, when the inflammatory action is slight. Iodine, mercurial frictions, and blisters, will sometimes succeed in procuring absorption; at the same time you must bear in mind that they will sometimes excite inflammatory action, where it did not before exist, and their use must, therefore, be carefully watched. The safest plan in the great majority of instances is the antiphlogistic; for to a certain extent inflammatory action is always present in these cases; but this mode of treatment must not be pushed beyond the point necessary to keep that action within moderate limits, otherwise it may prolong the disease almost indefinitely. If the patient be vigorous, and the action at the part considerable, the tumefaction, heat, pain, and redness, great, purging and local blood letting, with emollient applications, will

be decidedly useful; but when these symptoms subside, this treatment, with the exception of the emollient, to soften the integument, is no longer necessary. There can be no doubt that increased irritation at the part is accompanied by increased exhalation; excite a serous or mucous membrane, and its proper secretion is soon increased; stimulate an abscess, and you will soon see the same effect produced. Lessen irritation and as surely you will find the redness, the heat, and the induration disappear; its bulk will seem to lessen, probably in consequence of increased facility for absorption being afforded. Therefore, so long as any very manifest irritation exists at the part, antiphlogistic means are clearly indicated.

When abscesses have arrived at a period when the evacuation of their contents has become desirable, there are various modes by which it may be accomplished.

Acute abscesses.—Before we proceed to speak of opening such abscesses there are certain indications to be attended to; it is necessary to lessen inflammatory action at the part, by antiphlogistic means, before suppuration is established, because it may be sometimes prevented; the means to be employed are blood-letting, cold, purging, and diet. When the formation of abscess seems to be inevitable, we should employ the antiphlogistic treatment, associated with relaxing applications, for the purpose of reducing the surrounding inflammatory action. But these means, good in themselves, may be carried too far; the tension and pain may disappear, nature seems exhausted at the part, suppuration appears to languish, and the disease is almost indefinitely prolonged; therefore, such means must be employed with care. Usually, before we open these abscesses we should be satisfied that pus is fully formed and fluctuation manifest; but as I have already stated there are many exceptions to this rule, there are many which must be opened early; those, for instance, which are accompanied by excessive pain; whitlow; those under aponeurosis, the palm of the hand, the sole of the foot; those in the axilla, and near the anus, and other parts where the cellular tissue is abundant and lax, through which the pus may be infiltrated; those in the midst of tendons; those nearly connected with bone, or a consequence of diseased bones, because in their progress they may cause a bone to be extensively denuded. Weidmann thought that the pressure exercised upon a bone by confined pus might occasion necrosis; those abscesses which, without being very large, interfere with the functions of important organs, the pharynx, the fauces, and other parts of the neck and throat; lastly, those nearly related with some important cavity, the thorax, the abdomen, or large articulations; into one or other of these cavities pus may, though very rarely, find its way. But although it very rarely happens, what good is to be got by running a risk so easily avoided? The son of the celebrated Petit had an abscess in the axilla, yet the pus found its way into the chest; many other analogous facts are on record. Some persons think that abscesses developed in the course of large arteries should be early opened, because the pus may perforate the arteries, and cause hemorrhage. Although it may be well to open such abscesses early, the reason given for it is not a good one; pus on the outside of an artery may irritate and excite inflammation in the parietes of the artery, but the blood within will be coagulated, so that even if perforation occur, it need usually excite no fears of hemorrhage; there are yet other abscesses requiring early opening, produced by the infiltration of irritating fluids, the urine, or any other; these must be opened as soon as discovered, by incisions proportioned to their extent.

The mode of opening abscesses, however, is a matter of much importance, because each mode is best adapted to peculiar cases. The use of each should therefore be governed by particular rules. The two principal modes are *incision* and *caustic*, but there are others that are occasionally employed.

A cutting instrument should be employed to open acute or phlegmonous abscess, because as soon as you determine to open it, no time should be lost in effecting the object. M. A. Petit, who had a great horror of admitting air into these cavities, recommended that they should be opened with a red hot stilette or needle, and that the fluid should be extracted by means of cupping glasses. He very warmly recommended this mode of opening abscesses, urging that the cavity was very rapidly filled up. Whether this be the case or not I am unable to state, for in the practice of the present day this plan is excluded; and if the suggestion had any value, the object might be better attained by placing glasses over a very fine trochar canula.

I have already stated my reasons for believing that the knife is best adapted to acute or phlegmonous abscess; but it may be and is very largely employed in the treatment of chronic abscess. Usually it is a simple, sometimes a difficult operation. The kind of instrument, the number of incisions, the time of repetition, are not unimportant matters. I prefer the bistoury to the abscess lancet, because we have more command over it; if the abscess be small, or the person timid, a common lancet may, of course, be employed.

The bistoury I use is a double-edged one, which makes an opening of any extent, not less than that of an ordinary lancet. If any doubt exist, or the abscess be deep-seated, it is best gradually to cut upon it, rather than plunge an instrument into it at once; and if it be very obscure, it may be as well first to puncture with an exploring or grooved needle. The same course should be taken if the abscess be nearly connected with a large cavity, if it be nearly related to an artery of some magnitude, or other important organ. Those abscesses consequent upon urinary extravasation also require incisions in the perineum early and carefully made. If there be no counter indication, we must consider the sufferings of the patient, and therefore we usually plunge the instrument at once into the sac of the abscess; but once arrived there, in many cases it is necessary to enlarge the incision. In these cases the handle of the instrument is depressed, the edge is brought in contact with the tissues, and the opening is made of the required extent. In the greater number of cases a single opening is enough, but cases occur in which more are necessary. The extent of the incision must depend upon the depth to be cut through: if it be great, the incision should be as much more extended, because the fluid does not so easily escape, and the parts cut through have often a strong tendency to unite. As a general rule, the direction of the incision should correspond with the axis of the body. In those abscesses situated under muscles, which it is necessary to cut through for the purpose of liberating the pus, it is clearly not advisable to cut transversely through the fibres, because it is sometimes inconvenient; sometimes, however, it is necessary to cut transversely through the fibres of even a strong muscle, if any sufficient object be gained by it—when an abscess is under the pectoral, for instance. We have stated that a single incision is usually sufficient, but occasionally more may be required. An abscess may present several distinct cells. In very large abscesses, several incisions will often do better than one, for in the present day we are indisposed to make an incision extending from the trochanter to the heel, such as was often made in the last century. Neither in the present day, when an incision is made, do we introduce the finger for the purpose of breaking down any septa or bands which may extend across the cavity; these bands are often blood-vessels and nerves, which resist destruction for a longer time than cellular tissue. In this case, the least inconvenience the patient sustains is considerable pain. The only justifiable reason for introducing the finger is to ascertain whether the incision be large enough.

In those abscesses depending upon subacute inflammation of lymphatic glands, I have very rarely found blood-letting or cold, however far pushed, restrain their development; the only successful means I know of treating these abscesses, is repeated blistering, with pressure as soon as it can be safely borne. The ordinary antiphlogistic treatment will make them sluggish, will interfere with the circumscription, and will rarely arrest their progress.

Chronic abscess. — Arrived at maturity, these abscesses must be treated differently from those which are more acute in their character; for instance, as a rule, a chronic abscess should never be allowed to open spontaneously; at the same time it is not a matter of urgency to open them as soon as they are discovered. When they are opened, I have stated that two means of accomplishing this object are presented —caustic and the knife. If we employ the former, I would recommend you to use a paste, made by mixing together six parts of caustic potash and five of quicklime in fine powder, to which as much spirit of wine as may be necessary to make it into a paste is added. Of this paste a piece of the desired size and form is applied upon the centre of the tumor. In from five to fifteen minutes a slough of the necessary thickness may be obtained; and within ten minutes, usually, the whole thickness of the cutaneous integuments is destroyed. The object of using the caustic is to irritate the parietes of the abscess, and thus to increase the tendency to obliterate the cavity. If the abscess be of great extent, such an application, and the development of inflammation over so large a surface, would be clearly imprudent; and in those cases repeated punctures are preferable, repeating them when the accumulation is much less than on the first occasion, and immediately closing the opening. By this means the cavity is often so reduced as to allow ultimately of the use of the caustic. A first application of caustic is often insufficient; a second, or even a third, is sometimes necessary. With regard to the successive punctures, I have one observation to make: although a first, a second, and a third, may heal, it will happen that one will ulcerate and establish a fistulous communication.

Some persons, and among them Benjamin Bell, advocate the use of the *seton*. If the object be to procure a gradual discharge of the pus, it is attained by this means; but if it be also supposed that air will be excluded, this is an error; for

in a few days the seton orifices will be sufficiently enlarged to admit any quantity of atmospheric air, and the irritation which it excites is sometimes of serious inconvenience.

In order completely to exclude atmospheric air from the cavity of an abseess, the opening should not be very large; it should be made with a narrow bistoury, just large enough to allow the pus to pass in a continued stream. The moment it ceases to do so, the lips of the wound should be brought together, and carefully secured by means of adhesive plaster. It may be necessary again and again to repeat it, the time varying with the rapidity of the secretion. Before it is done the tumor should be tense, and the fluid compressed. If at this time the collection be smaller than before the first puncture, we have the satisfaction of knowing that the surrounding tissues are acquiring their natural elasticity, and that the exhalation is less abundant.

Whatever mode of opening may have been employed, certain general principles of treatment must be employed, except in the cases to which I have last alluded. The dressings should be so managed as to insure the gradual evacuation of the pus. and as much as possible to bring together the parietes. If the incision tend to heal up, a dossil of lint should be interposed to prevent it; at the same time full liberty of escape should be afforded for the pus, otherwise the parietes would be again distended. When the opening does not correspond with the most depending part of an abscess, the pus may go on accumulating, may be acted on by the atmospheric air, become decomposed, and be a source of great irritation. It is always prudent, therefore, when the opening is not at the most depending part, to endeavour, by position, or compression, to give the part such a bearing as will enable the pus to flow towards that point. Compression will rarely succeed unless associated with position: both may fail, and counter-opening is the only course to pursue.

There are a few cases where the use of the trepan is necessary to procure the evacuation of abscesses; those of the interior of the cranium, when well made out, may require it; those of the anterior mediastinum may require the application of the trepan upon the sternum. But abscesses in that region are not easily made out: there should be pointing. In such a case, the object in perforating the sternum is to give the pus a more direct channel for escape than it might have if a puncture were made where pointing is seen. Where abscesses exist in bone, the application of the trepan is again indicated. David, in France, and Sir Benjamin Brodie, in our own country, have done much to simplify abscesses of bone. In David's memoir, crowned in 1764, we find the following statement:—"Bones are susceptible of inflammation and tumor of their substance; these tumors may terminate by a species of suppuration which is proper to bone. If the progress be slow, the pain will not be very acute; but if it be rapid, the pain will be very great." After pointing out many dangers which attend upon them, he says, "All these considerations make us feel the necessity of promptly opening such abscesses, and still more the necessity of distinguishing them. It is very difficult to establish the existence of abscess in the substance of a bone, especially when there is no considerable external tumefaction. The symptoms upon which we can most surely rely are, a heavy dull pain in the bone, which becomes more and more severe, confining itself very much to the point where it was first felt; an external œdema; the pain becomes more gnawing; there is sleeplessness, irregular rigors, fever," &c. After pointing out the necessity of early opening, he says, "When it exists in a bone sufficiently large to admit of it, the tibia, the sternum, &c. the treatment must be, to apply a crown of a trepan upon the point where the abscess exists. If the bone be thinned, and give way under the trepan, we may use a strong scissars or other instrument." Sir B. Brodie's able paper is contained in the Medico-Chirurgical Transactions.

Emetics.—There are certain situations in which emetics may be used as a means of evacuating abscesses; those of the pharynx and its vicinity are among those in which this means is often successful. During the efforts of vomiting all those parts are violently stimulated, convulsive movement affects them, their surfaces rub one against another, and the abscess may thus be broken. Instantaneous relief is experienced, and the cure is usually rapid. We should not, however, have recourse to them indiscriminately; they are only applicable to abscesses about the organs of deglutition: if an abscess in this organ be large, it is often impossible to open the mouth sufficiently to use cutting instruments, and here this means has a peculiar value. Emetics should not, however, be used if the stomach be very irritable; but in the absence of all symptoms of gastric irritation, emetics prudently administered, and carefully watched, may often be used in these cases with much advantage.

FISTULA.

An abscess may not completely heal

after incision, a discharge may continue, and a fistulous canal may be the result. By a *fistula* we understand an accidental canal, destined to give vent to liquids naturally or accidentally formed; these canals may open upon the cutaneous or mucous surfaces, sometimes upon serous or synovial ones.

Among the causes capable of producing fistula is very considerable destruction of cellular tissue under the skin, so that the cutaneous integument does not come in contact with the deeper tissues. This may be a consequence of abscesses whose walls have not come together; chronic inflammation of lymphatic glands—in the neck, the axilla, or the groin; chronic ulceration of joints, occasioning abscesses opening externally, caries and necrosis; foreign substances in the tissues of the body; perforation of certain reservoirs or canals destined to contain or carry away excrementitial matter—such as bile, saliva, urine, &c.

It is easy to understand how an abscess which has denuded the cutaneous integuments produces fistula: the parts cannot be brought together to adhere; the accidental surfaces must still remain; the purulent secretion from those surfaces continues to be formed, and must have vent, and the opening is thus perpetuated. So in the case of a foreign body; it keeps up the irritation which its presence at first excited; pus continues to be secreted, and must be poured out; therefore the opening remains. These are usually the least important cases of fistula; those which communicate with reservoirs or canals are much more troublesome, much less manageable. Whether communicating with the stomach, the lungs, or with any excrementitial canal, they succeed to wounds or inflammation of those several parts. Generally, when connected with excretory canals, they irritate and tumefy the mucous coat of those canals, and materially lessen their calibre. They thus interfere with the passage of the fluids which they usually carry, and the accumulation of the fluid behind the contracted point not unfrequently distends and irritates the part so as to occasion a new abscess: this in time opens; the fluids pass through it, and a second fistulous canal is the consequence: thus we often find several at the same time in the neighbourhood of the anus and the urethra. They may be produced by a foreign body, a calculus, for instance, lodged in the urethra; a fishbone, or other body, in the rectum. Where an excretory canal is surrounded by much cellular tissue, another circumstance not unfrequently happens: the canal is inflamed, the cellular structure external to it is inflamed also; abscess is formed, and discharged perhaps externally, and at the same time, or subsequently, the parietes of the canal give way, and what is usually termed a complete fistula is the consequence. These are seen only in the neighbourhood of the urethra, the rectum, and the lachrymal duct.

Much difficulty is not usually experienced in detecting a fistula. Whenever after a wound or an abscess we find the opening contracting, without completely closing, still furnishing a larger quantity of pus than its apparent extent would seem to explain, we may presume that a fistula exists. Two principal circumstances serve to distinguish, at the first blush, fistulas from other lesions of the soft parts: the first is based upon the aspect of the part; the second upon the character and quantity of the fluid which it furnishes. Almost all fistulæ present a contracted orifice, sometimes depressed, sometimes presenting a puckered appearance not unlike a miniature sphincter. Sometimes the orifice is red, fungous, and projecting. Often the surrounding parts are solidified by the permanent irritation at the part; they become callous, and the callous masses are sometimes so considerable as to form projecting, and sometimes horny tubercles, which it is necessary to excise; all means employed in the hope of softening them being useless. The character of the fluid gives more certainty to the diagnosis. Thus when a wound, whatever may be its dimensions, furnishes a larger quantity of fluid than is proportioned to its extent, we must suspect that behind it a fistulous canal exists. This presumption acquires greater probability when the matter is sanious, greyish, or exhales a faint or fœtid odour, offering the characters of pus furnished by carious bones, or those of fibrous or glandular tissues. This probability becomes a certainty when liquids are poured out which under ordinary circumstances are carried along certain excretory canals—saliva, tears, bile, fæcal matter, urine. But we must not rest satisfied with the discovery that a fistula exists: we must, as nearly as may be, ascertain its extent, its direction, its connection with important organs; whether it be connected with caries or necrosis, with perforations of certain organs or certain canals; otherwise it will be impossible to employ with success those, sometimes delicate, operations which are required for their cure. It is rare that the fingers can be used to explore: it is therefore necessary to have recourse to probes or sounds. Care should be taken to remove all obstacles to the passage of the exploring instrument: it should be passed along with great care and gentleness, rather letting it find its own way

than using any force in directing it, and carefully observing the direction it takes; and if the communication be with an excretory canal, at what point it joins it. There are some fistulous canals connected with excretory channels, whose point of communication is pretty uniformly situated at one point; those of the rectum or anus, for instance; but in the greater number of cases no such rule obtains. How is it that fistulous canals so obstinately resist attempts to obliterate them? Simply because they are invested by a membrane the opposed surfaces of which have an invincible repugnance to enter into adhesion.

Pathological anatomy shows us in all fistulæ a principle which is a foreign body, a caries, a necrosis, a cavity whose parietes are ill organized; a large cavity, the chest, the frontal or maxillary sinus, the larynx, &c.; a canal of variable length, from some lines to some inches, sometimes sinous, formed by a tissue sometimes very hard, callous, sometimes only slightly so; and an orifice through which the fluid is discharged, which is sometimes depressed, sometimes projecting, narrower than the canal which it terminates. At the first period of the existence of a fistula the adjoining parts are inflamed to some distance; the walls of the fistulæ are covered with granulations, which, if the source of irritation be removed, will speedily close the canal; but if this period be passed, they become lined with a mucous-like tissue, which acquires a power of resistance and permanency, independent of the cause which has produced the fistula. This tissue by which a fistula is lined is at first presented in the form of granulations, and then the canal is placed under circumstances most favourable for cure; but the continual passage of fluid along it soon changes its character, and a reddish villous membrane, having apparently all the characters of mucous membranes, is the consequence; as if nature, in case of disease, resorted to the original plan of organization. It is along mucous surfaces that all excrementitial matters pass. If a fluid be accidentally secreted, or if a fluid ordinarily carried along natural channels accidentally opens for itself a new course, if this new channel persist for a certain time, it assumes all the characters of the natural channel. The analogy of this membrane with the mucous tissue has been contested by some persons: whether right or wrong in this, so much is certain, that like the mucous tissues it is provided with a very delicate capillary tissue, that it presents the same appearances, and answers the same purpose. It is true that, so far as I know, no follicles have been demonstrated, neither have they in many portions of the mucous tissues. The sensibility of this tissue is obscure under ordinary circumstances, but capable of being greatly exalted under the influence of irritation: it is the seat of a tolerably active exhalation and absorption. Its principal use appears to be to protect adjoining parts from contact with the irritating fluids which frequently pass along them. When strongly or frequently irritated it may become very thick, callous, and almost insensible. Nearly always, fistulæ around their external orifice present more or less thickening, and if the fluid passing through them be very irritating the whole length of the fistulous canal feels like a knotted cord.

Fistulous canals furnish fluids which are mixed with those which are conveyed from within: the characters of those fluids vary with the quantity of inflammation and the duration of the lining tissue. When recent, the fluid is purulent; if inflammatory action be intense it may be bloody: it may be fœtid, and capable of excoriating the skin. When they are old, and not much inflamed, the fluid is viscid, whitish, almost transparent, inodorous, presenting the ordinary characters of thin mucus. The gravity of these affections varies with the producing cause, with the organs whose functions they derange, and with the facility with which art can provide a remedy. Next to these circumstances are the particular condition of the case, the seat and number of the orifices, the density of the irritated structures along which they pass. There are some which sap all our comforts, or even threaten life—artificial anus, urinary fistulæ; others which are a lasting inconvenience — salivary fistulæ.

Left to themselves their course may be different. Some will now and then cicatrize, though the cause which has produced them still exists; but then inflammation, abscess, and a new fistula, are the consequence: this may happen again and again, until a large irregular mass, almost to the touch like scirrhus, is the consequence. When fistulæ are thus deep, large, and numerous, and furnish much pus, they gradually bring about emaciation and general prostration. The cellular tissue becomes infiltrated, and hectic and death may be the consequence.

Treatment.—All fistulæ are not susceptible of cure; some are incurable, because we cannot destroy the cause which keeps them up, or because they are connected with organic mischief of too serious a character to admit of removal. There are some in which it might be possible to bring about cicatrization, but it may be dangerous to do so: probably those occurring by the sides of the anus of persons

suffering from phthisis are in this class. In these cases we do no more than counsel methodical dressing, remove, as much as may be, all irritation, and see that no obstacle to the passage of fluids is developed.

In the methodical treatment of fistulæ, certain leading principles must be borne in mind; we must be satisfied as to their origin; we must seek to relieve the condition which has given birth to them; the treatment must, therefore, be very variable. This *primum mobile* being destroyed the indurations around the fistulous canal will often soften down of themselves, without the necessity of carrying, as the ancients did, the knife and the fire into the treatment. This does not, however, always happen; those indurations are sometimes so considerable that absorbent action is insufficient for their removal. If the fistulæ succeed to abscesses, which have much thinned the integument, destroying the cellular tissue and the nutrient vessels; compression carefully applied, so as gently to bring that integument in contact with the deeper tissue, will sometimes cause them to adhere. Stimulating injections, by exciting a more acute degree of inflammation, will sometimes produce a similar effect. If these means fail it will be necessary to apply the actual or other cautery to lay open the denuded integuments, or even to excise it with a scissars, or destroy it with caustic. When considerable abscesses exist in situations where little tendency exists to bring the sides together, so as to adhere or contract, such as the axilla, the neighbourhood of the anus, and so on, we must take care that they are kept clean, and take means for restoring the general health; the tissues then will tend to fill spaces produced by emaciation, and tend to obliterate the cavities so produced. Without this species of organic reparation, injections, and even incisions, will often fail in curing the disease. Some fistulæ happen in consequence of the fundus of an abscess being much more depending than the opening; the purulent matter accumulates, and the disease is maintained. In such cases we must recur to nicely adapted compression; that failing, we must employ counter-openings. When abscesses of lymphatic glands terminate in imperfect suppuration, fistulæ are not uncommon. It is necessary, then, to destroy the glandular irritation, which is often conveniently done by blisters applied in the neighbourhood, and the fistulous canal will soon yield. Where they are occasioned by carious or necrosed bones the cure is difficult, and in general very tedious, because we have no very certain means of accelerating or arresting the progress of one or the other; therefore, until these diseases are dissipated, the direct treatment of the fistula cannot be employed. Where there are many tortuous canals communicating with an organ at one or many points, it is sometimes advisable, before recurring to the principal operation, to perform minor operations for the cure of these complications, to lay open those several canals or sinuses into one principal one, as this course will often lessen surrounding induration, and make the way smoother for the latter operation. In fact, we cannot resort to the radical cure without inconvenience until these preliminary matters have been disposed of. There is one cause of fistulæ after abscesses which is rarely sufficiently attended to—motion. Wherever motion is considerable, there an opening of an abscess shews less tendency to cicatrize. John Bell relates a case of fistula in the axilla, which resisted apparently the best directed means of treatment for a long time. During its existence the patient fractured his arm; it was necessary to keep the arm fixed to the side for some weeks, and the fistula was cured.

Particular fistulæ we shall describe with the diseases of particular organs.

HECTIC FEVER.

Profuse or long-continued suppuration may end in the production of hectic fever. John Hunter thought it indicated "a constitution now become affected with a local disease or irritation which the constitution is conscious of, and of which it cannot relieve itself, and cannot cure." He thought "we should distinguish between a hectic arising from a local complaint entirely, where the constitution is good, but only disturbed by too great an irritation, and an hectic arising principally from the badness of the constitution, which does not dispose the parts for a healing state; for in the first, it is only necessary to remove the part (if it be removable), and then all will do well; but in the other we gain nothing by a removal, except the wound made by the operation is much less, and much more easily put into a local method of cure."

The term *hectic*, we apply "to a continued febrile movement, of uncertain duration." It is most commonly a consequence of slow profound suppuration. It is characterized by general paleness, accompanied, with more or less constancy, by a circumscribed redness of the cheeks, emaciation, flabbiness of the flesh: these are the more striking features of persons in whom hectic fever has been some time developed. Even at this period the digestive functions are often satisfactorily performed; the appetite continues, or is even increased, but the patient always complains of heat and dryness of the fauces,

and of considerable thirst; the pulse is hard and frequent, especially towards evening and after the lightest meal. The respiration is rapid and hurried on the slightest exertion; at a later stage of the disease it becomes more distressing. There is often a short dry cough, particularly after taking food, although the respiratory organs are not the seat of any primary disease. The general heat is increased, the skin is dry and hard, and this is generally felt by the patient at the palms of the hands; the eyes are brilliant and humid; the cheeks, over the malar bones, red. At first, cutaneous transpiration is suppressed, but at a more advanced period of the disease the perspiration is abundant, though unequal, affecting particularly the head, the neck, the chest, and epigastrium; increasing at night, and especially towards morning. The urine is frequently scanty, high-coloured, and deposits a whitish or reddish sediment. To the constipation which was the characteristic of the earlier period. succeeds, sooner or later, a diarrhœa, which soon becomes colliquative, and rapidly breaks down the remaining strength of the patient. Emaciation then proceeds with greater strides; the legs become œdematous, the temples hollowed, the eyes sunken, the muscular power exhausted; the hair drops off, the nails are curled and livid, sleep is interrupted by constant dreams—it is no longer a relief or a work of reparation. The lassitude is very intense, but, strange to say, during this general lassitude, the genital organs are extremely active. This gradual wearing out of all the physical faculties is strangely contrasted with the integrity of the intelleetual faculties up to the hour of death.

Hectic usually presents a continued type, with exacerbations; not unfrequently the remittent type, or quotidian or double tertian; very rarely intermittent, the patient seldom being without fever in the intervals. The paroxysms are commonly observed in the evening; sometimes there are two in twenty-four hours. The duration of this fever is generally long and undetermined; it ends commonly only with life. It generally brings about, by the gradual extinction of the vital powers, a quiet, easy, unexpected death, whose approach is usually concealed by an agreeable veil of hopes and illusions.

The hectic, says Hunter, comes on at very different periods after the inflammation and commencement of suppuration, owing to a variety of circumstances. First, some constitutions fall much more easily into this state than others, having less power of resistance. The quantity of incurable disease must be such as can affect the constitution; and in whatever situation or whatever parts, it will be always as to the quantity of disease in those situations or parts in the constitution which will make the time to vary very considerably. In many diseases it would appear, from the manner of coming on, that they retard the commencement of the hectic; such as lumbar abscesses: but when such abscesses are put into that state in which the constitution is to make its efforts towards a cure, but is not equal to the task, then the hectic commences. It will come on as much sooner as the parts affected are "more vital." Parts well disposed to take on such specific diseases as are not readily cured in any situation—the larger joints. In the small joints, although the same local effects take place, yet the constitution is not made sensible of it; we therefore find a scrofulous joint of a toe or finger going on for years without affecting the constitution. The ankle, wrist, elbow, and even the shoulder, may be affected much longer than either the knee, the hip-joint, or loins, before the constitution sympathises with their want of powers to heal. "Although the hectic commonly arises from some incurable local disease of a vital part, or of a common part when of some magnitude, yet it is possible for it to be an original disease in the constitution;—the constitution may fall into the same mode of action without any local cause whatever, at least that we know of." In this opinion I do not coincide. "Hectic may be said to be a slow mode of dissolution: the general symptoms are those of a low or slow fever, attended with weakness, but more with the action of weakness than real weakness; for upon the removal of the hectic cause, the action of strength is immediately produced, as well as every natural function, however much it was decreased before. "The disease has been, and still is, generally laid to the charge of the absorption of pus into the constitution from a sore; but I have long imagined that an absorption of pus has been too much blamed as the cause of many of the bad symptoms which frequently attack people who have sores."—"If this absorption of matter always produced such symptoms, I do not see how any patient who has a large sore could possibly escape this disease; because we have, as yet, no reason to suppose that any one sore has more power of absorption than another. If, in those cases where there is a hectic constitution, the absorption is really greater than when the habit is healthy, it will be difficult to determine whether the increase of absorption is a cause or an effect. If it be a cause, it must arise from a particular disposition in the sore to absorb more at one time than common, even while

it was in a healthy state; for the sore must be healthy and then absorb, which hurts the constitution: moreover, as the sore is a part of that constitution, it must of course be affected in turn; and what reason we have to suppose that a healthy sore of a healthy constitution should begin to absorb more at one time than another, I must own I cannot discover. If this increase of absorption does not depend upon the nature of the sore, it must then take its rise from the constitution; and if so, there is then a peculiarity in the constitution, so that the whole of the symptoms cannot arise entirely from the absorption of matter as a cause, but must depend on a peculiar constitution and absorption combined. If absorption of matter produced such violent effects as are commonly ascribed to it (which, indeed, are never of the inflammatory kind, but of the hectic), why does not the venereal matter do the same? We often know that absorption is going on by the progress of buboes; and I have known a large bubo, which was first ready to break, absorbed from a few days' sickness at sea, while the person continued at sea for twenty-four days after: yet, in such cases, no symptoms appear till the matter begins to have its specific effects; and these very symptoms are not similar to those which are called hectic. From reasoning, we ought to expect that the venereal matter would act with greater violence than the common matter from a healthy sore. Although matter, too, is frequently formed on the inside of the veins in cases of inflammation of their cavities, and this matter cannot fail of getting into the circulation, yet in these cases we have not the hectic disposition, but only the inflammatory, and sometimes death. We likewise find very large collections of matter which have been produced without visible inflammation; such as many of the scrofulous kind, and which are wholly absorbed, even in a very short time, yet no bad symptoms follow. We may, therefore, from hence conclude, that the absorption of pus from a sore into the circulation cannot be a cause of so much mischief as is generally supposed: and if it was owing to matter in the constitution, I do not see how these symptoms could ever cease till suppuration ceased; which does not readily happen in such constitutions, their sores being tedious in healing. "We find, however, that such patients often get well of the hectic before suppuration ceases, even when no medicine was given; and in the case of veins there is great reason to believe, that after all the bad symptoms are removed, suppuration is still going on, as we find it so in a sore: pus may, therefore, still pass into the constitution from the veins, and yet the hectic may not be produced, which would certainly be the case if those bad symptoms were occasioned by the matter getting into the circulation." And I very much doubt the fact of absorption going on more in one sore than another; and if ever it does, I think it is of no consequence. I am much more inclined to believe that this hectic disposition arises from the effect which irritation of a vital organ and some other parts, such as joints (being either incurable in themselves or being so to the constitution for a time), have on the constitution.

Indeed the existence of suppurative action at all is not necessary to the production of hectic. Although I am not disposed to admit the many causes mentioned by Truka, because I believe he confounded many diseases under this denomination, yet I think that many cases of irritation or chronic inflammation of mucous tissues are capable of exciting it. It has also been produced by profuse ptyalism, diabetes, sexual abuses, nymphomania: the existence of foreign bodies in the trachea has also occasioned it. It has ceased upon their removal. However, although these cases are sufficient to shew that the absorption of purulent matter is, at all events, not always the exciting cause, yet it is in cases attended by suppurative action that hectic is most commonly seen. I differ from Mr. Hunter in this, that I do not believe hectic to be an essential disease: it is, I apprehend, always a symptomatic disease, and every day's experience serves to make this more evident. In fact it may be regarded as the symptom of a chronic irritation, most commonly seated in some vital organ; and this organ explains its gravity.

The course of hectic may be divided into three periods. In the first, the only symptom which marks its existence is a slight febrile action; increased heat, appearing in the evening and ending towards morning. In the second, the febrile action becomes continuous. It is not until the third period that perspiration, colliquative diarrhœa, exhausted powers, marasmus, and œdema of the lower extremities, are ordinarily presented. Of all these mortal symptoms, the diarrhœa, which is usually regarded as most characteristic and most fatal, is not so indispensable as is usually believed, and presents much variety, dependent upon the state of the intestinal tube and the diet of the patient. Many phthisical patients will terminate their career with constipation—others, after having experienced slight diarrhœa for a few days. This condition is more frequently witnessed in hospitals, where patients in the last stage of hectic are carefully dieted, than among private patients, who are

often allowed to take whatever their capricious appetites may point out.

Treatment.—Unless we can remove that local disease of which hectic is a symptom, we cannot hope to cure this disease. To give bark and wine to relieve the debility which is so distressing a symptom when hectic is present, in many cases will be only to increase the local disease and to accelerate the fatal termination. Yet the surgeon often feels, in those cases where the disease by which hectic is excited does not affect a vital organ, that he is justified in exhibiting stimuli, for the purpose of giving the vital functions more power to resist the baneful influence upon the constitution, of the local disease. Thus in a disease of the knee-joint, ulceration with abscess, which so affected the system as to develop hectic, we are justified in exhibiting bark, wine, opium, camphor, &c.; which not only increase the power of resistance, but often seem to exercise a salutary influence upon the local disease. If, instead of this, hectic depended upon disease of the more important viscera, the exhibition of such substances would be most objectionable; they would increase fever and diarrhœa: in fact, they would increase all the patient's sufferings, and hasten the fatal termination.

Whether antiseptics, salines, with mineral acids, have so decided an action in lessening suppurative action as some persons believe, is at least very doubtful. Those persons who believe that hectic symptoms are often excited by the absorption of pus and its presence in the blood; (and the observations of Mr. Gulliver, to which I have already sufficiently referred, if confirmed, would increase that number), believing also that salines and acids would tend to change or destroy it, would naturally expect much good from the employment of those remedies. The only good I have ever seen derived from their use in such cases, is to lessen the profuseness of the perspiration, which is a source of so much distress to the patient.

If the hectic depend upon a local disease which can be removed (and this is often the case in the practice of surgery), we may at once cut short the progress of hectic. The disease may be an incurable disease of a joint: we can remove the limb, the constitution may at once rally when the source of irritation is removed, and all symptoms of hectic be dissipated. Hunter has known a hectic pulse at one hundred and twenty, sink to ninety in a few hours, upon the removal of the hectic cause. He has known persons sleep sound the first night without an opiate, who had not slept tolerably for weeks before; he has known cold sweats stop immediately, as well as those called colliquative; he has known a purging immediately stop upon the removal of the hectic cause, and the urine drop its sediment: and this is the general experience.

ON SIPHILIS.

By Herbert Mayo, F.R.S.
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[Continued from page 353.]

[*For the London Medical Gazette.*]

Siphilitic psoriasis continued—Siphilitic lichen—Group of symptoms in the lichenous form of secondary siphilis—Treatment—Cases—Ulcerative affections of the skin—Lepra—Tubercle—Ecthyma—Rupia.

Siphilitic psoriasis occasionally breaks out with the character of a protracted eruptive fever. Mr. Rose gives the case of Thomas Wills, aged 40, who was admitted into the Coldstream Hospital on the 30th of November, 1815, with a superficial ulcer of some days' standing on the extremity of the prepuce. He was dismissed Jan. 13, 1816. May 25, he was readmitted. He said he had had an attack of fever in the beginning of February, whilst on furlough in Essex; and after it had continued for some days, an eruption came out on every part of his body. The surgeon who attended him thought at first it was small-pox. It was probably, Mr. Rose conjectured, lichen, with papulæ of a large size. They have left large stains, which are slightly depressed, and becoming of a natural colour in their centres. The eruption had continued very thick for a week, and then went off in scurf.

This case is evidently of the same kind with the diseases described by Dr. Bateman, in the fifth volume of the Medico-Chirurgical Transactions, under the title of a "tubercular eruption of a siphilitic appearance, but curable without mercury." Dr. Bateman observes, that during the preceding two years he had seen from eight to ten instances of it, two only of which occurred in men. He speaks of the preliminary period lasting from a fortnight to three weeks, during which rheumatic pains, languor, and loss of strength, were present; and of roughness and soreness of the throat, with slight tickling cough on the appearance of the eruption, which he describes in these words:—"The eruption,

which had extended over the whole body in all the cases, at the time when I first visited the patients, consisted of a number of small circular spots, from one to two lines in diameter, slightly elevated above the surface of the cuticle, but flattened on their own superficies. They were at first of a dusky rose colour, smooth, and shining; but subsequently they became somewhat darker, or of a more purple or chocolate hue; and the surface of some of them at length exhibited a slight tendency to desquamation in the centre. This tendency to scale was generally most remarkable in the tubercles affecting the legs, which were somewhat larger than those of the rest of the body. A minute scaly crust was also occasionally formed upon the centre of some of those which were seated in the forehead, when the eruption was at its acme, or on its decline." He notices, besides, as present, inflammation of the tarsi and tunicæ conjunctivæ, and tenderness of the scalp.

The features of the following case, which was certainly siphilitic, and of the nature of psoriasis, identify it with the preceding:—

Charles Clarke, aged 38, towards the end of September, 1838, contracted a gonorrhœa that was followed in a week by an ulcer at the side of the frænum. A week after the appearance of the ulcer, having been exposed to cold and wet, he was taken with shivering, and pain in the back, followed by a hot stage, attended with pains of the back, legs, shoulders, arms, and head. This attack of fever had subsided in something more than a week, leaving him debilitated, when there broke out a profuse crop of slightly raised irregularly shaped flat spots, first on the thighs and legs; then on the body, and penis, and scrotum; then on the arms, head, forehead, and face. The eruption was general in three days; on the fourth day, Oct. 27, he came to the hospital, and was ordered as an out-patient six grains of blue pill, with half a grain of opium, daily, and six grains of iodide of potassium in two ounces of decoction of sarsaparilla, three times a day. This plan he followed for three days, and was then admitted an in-patient under Mr. Tuson. He was covered with eruption, which at first sight looked like small-pox. The spots, which were elevated, and of a brownish-red colour, had a glistening appearance, from a fine layer of semi-opaque lymph and epidermis on the summit of each. The mouth was sore from the mercury, which was ordered to be discontinued, and in its place four grains of the iodide of potassium, to be taken three times a day. The mouth continued sore for several weeks. After a few days the eruption began to decline, the patches lost their elevation; on their desquamating, brown stains were left, which gradually faded. He had no sore throat.

It is presumable that in this febrile form of the complaint no specific treatment is requisite.

II. Siphilitic lichen.—The eruption consists in acuminated pimples, of a red colour and variable magnitude, from the minutest size to a sixth or a fifth of an inch in diameter. They are either separate or in clusters. The two forms often coexist, the general eruption being of larger papulæ, interspersed here and there with oval groups of lesser ones. Sometimes the whole cutaneous surface is covered with extremely minute papulæ, the face and forehead having a swollen appearance. The separate lichenous papulæ are formed upon the orifices through which the pilar hairs come out. The point of each papula is grey, from lymph effused beneath the cuticle. After some days the spots become paler, a scurf separates, and a slight stain, effaceable on pressure, alone is left. As the first crop of pimples fades fresh ones often arise. Occasionally pus is formed in some of the papulæ, but there is no ulceration. The pus dries, forming a scab, which, when it separates, discloses no eschar or depression. Sometimes an eruption occurs, which it is impossible to dissociate from siphilitic lichen, in which all the red points fill with transparent fluid, and then with pus; or the eruption becomes pustular at once.

The distinguishing feature of the lichenous variety of secondary siphilis is, that the attack bears an inflammatory character, and is ushered in by symptomatic fever, which continues a longer or shorter time after the eruption has appeared. Siphilitic pains accompany the fever and eruption; they are commonly more severe than in psoriasis, and affect the joints in a greater degree, the knees especially, and the ankles, which are liable to become swollen. These pains are sometimes most severe at night. The throat is liable to be si-

multaneously affected in the same way as in psoriasis, namely, with inflammatory excoriation. Loss of hair occasionally attends this form of the disorder. Iritis is more frequently combined with lichen than with either of the other forms of cutaneous siphilis: this evidently has to do with the inflammatory state of habit that prevails in, and probably occasions, the lichenous variety. The bones are least frequently affected in this form of the disease. Mr. Carmichael, through whose original observations the characteristic features of the lichenous variety of siphilis were first determined, observes of his experience in it—"In a few cases swellings occurred over the tibiæ, and might be denominated nodes. They differed, however, from the siphilitic node in possessing much more of the inflammatory character, and in affecting the coverings of the bone and not the bone itself; for they appeared suddenly, and after continuing a few days as rapidly disappeared, without the exhibition of mercury." In other words, in Mr. Carmichael's experience, the periosteal affections in this variety of lues have the same character which the other local disorders present.

In the lichenous form of siphilis, as well as in the preceding, cases occur that are so trivial, although perfectly identifiable, as not to disturb the health sufficiently to render medicine necessary. The treatment of venereal lichen has to be conducted in reference partly to the febrile disturbance which attends it, partly to the vitiated habit of body from which it springs. In the febrile or inflammatory stage, confinement to bed, low diet, salines with antimonials, aperient medicine, and even venesection if the inflammatory symptoms run high, are to be prescribed. When the febrile symptoms are on the decline, if the patient appears to be quickly picking up strength and health, no further treatment may be then advisable. But if, as it frequently happens, the patient remains out of condition, the throat excoriated, and fresh papulæ appearing; or, no strongly marked febrile symptoms having ushered in the disorder, the patient has been from the first in a cachectic state only, one of the antisiphilitic medicines is necessary; and among these the iodide of potassium is to be preferred: it has appeared to me even more promptly efficacious in this stage of this form of siphilis, than in psoriasis. The other palliatives of the same class are preferable to mercury. Nevertheless, in some cases of a protracted nature, here, as in psoriasis, an alterative course of mercury is to be recommended; but perhaps it is more useful from its general influence upon the system than for its specific influence on the disorder. In the inflammatory, or most virulent form of lichen, mercury is certainly prejudicial.

I shall now exemplify some of the principal features of the lichenous form of siphilis by the detail of cases, selected to illustrate the origin and progress of the complaint, and the rules of treatment above laid down.

Thomas Campion, mentioned by Mr. Rose, was admitted into the Coldstream Hospital, June 3, 1815, with a large, not very deep sore, on the edge of the inner membrane of the prepuce. It had no disposition to granulate, and he had an open bubo in each groin. The sore, from his account, had been present a fortnight, the buboes a week. The former was healed on the 14th of June; and on the 24th of that month, after feeling chilly and feverish for two or three days, an eruption of inflamed papulæ appeared over his body, and about his forehead and neck. On the 28th the febrile symptoms had disappeared; but the eruption was very thick, and his left eye was inflamed. The inflammation did not appear to have extended to the internal tunics. July 5th, his eye was well; the eruption had begun to fade, coming off in scurf. He had taken small doses of Epsom salts and antimonial powder since the attack of the first symptoms. This was omitted, and decoction of bark and nitric acid prescribed. July 12, the symptoms had nearly left him; the buboes were both healed. July 21, he was dismissed. He returned four days afterwards with violent pains in his limbs, increased at night. His ankles were swelled, and some fresh papulæ had appeared about his face and neck. By the use of the warm bath and Dover's powder these symptoms were removed. He was dismissed cured on the 21st of August.

In the next case given by Mr. Rose, lichen occurred after "an indolent sore close to the edge of the frænum, which had been present two months. It was healed in thirteen days, with some hardness and thickening." The pri-

mary sore, in the case immediately succeeding, is described as "situated at the extremity of the prepuce, having thickened edges, and some induration." In another, followed by lichen, upon subduing a phymosis, "a deep foul sore was brought into view on the left side of the frænum, of the size of a silver penny, with hard and irregular edges." This was healed, with much hardness, in twenty days.

Thomas Robins, aged 28, came under the care of Mr. Rose, June 29, 1816, for pain in his shin bones and knees, increased when he was warm in bed. A very copious eruption of lichen in large papulæ over every part of his body, with inflammation of both irides. The pains in the limbs had been present about a month; the eruption had appeared about a week; the inflammation of the eyes only three days: he had had a similar eruption, though not nearly so copious, about three months before. He got well without mercury; but at some date subsequent to the 6th of October, he had over his shoulders and buttocks, and at one time on the soles of his feet, a few small vesicles, which came in clusters on a thickened and elevated patch of skin. They soon filled with a puriform fluid, and when they burst left a thin scab. The thickened integument was of a dark red colour, of an irregular form, and in general about an inch in its longest diameter. It remained for a long time, but produced no effect on the general health.

Thomas Kelbay was admitted into the Coldstream Hospital, on the 16th of March, 1816, with a small deep circular sore, with hard irregular edges, immediately behind the corona glandis, and two small sores on the outer edge of the prepuce: he had likewise a purulent discharge from the urethra. May 8, the sore behind the corona was beginning to granulate. It had proved very troublesome, several deep sloughs having formed in it at different periods. A pustular eruption had appeared on his body and limbs. The pustules were very small, not much larger than pins' heads, and were on slightly elevated and dark red bases. He had pain in the loins, but no distinct febrile symptoms; tonsils enlarged; ulceration at the back of the pharynx. May 15, the eruption had extended to his forehead, chin, ears, mouth, and neck. Numerous tubercles could be perceived under the integument on the inner part of the right leg; they were quite moveable, and half the size of garden peas. The right ankle swelled at night, and he complained of pain in the upper part of the tendo Achillis. May 20, threatened iritis of the left eye. 26, many of the pustules had burst, and formed a thin crust, and fresh ones have continued to come out. June 1, the eruption covered every part of his body. The pustules had increased in size, but were still a good deal smaller than those of small-pox; in the face they were beginning to scab. On June 15, July 1, August 14, and October 2, he had fresh attacks of pustular eruption, the last "fainter and with less disturbance than any of the preceding ones."

Elizabeth Sinclair, aged 25, was admitted into the Middlesex Hospital, Nov. 2, 1839. About six weeks previously she had contracted gonorrhœa, followed, in a week, by sores on the inner surface of the labium. About three weeks after this, she felt pains in the legs, and was languid and out of health. In another week the pains became general, affecting her entire person, accompanied with chills, followed by heat of skin, thirst, and loss of appetite. At the same time, a crop of lichen broke out upon the back and shoulders, which became thicker daily, and spread over the chest and abdomen, and forehead. The pains continued very severe for ten days, since when they have been partial and occasional only. At her admission, the papulæ on the back were of two kinds, large single papulæ, and groups of smaller ones; on the forehead they were of small size; on the chest and abdomen few and large only. The tonsils were swollen and excoriated. There were two small ulcers, without induration, upon the inner surface of one labium. Her gums were swollen, and had the appearance of being affected with mercury. Not to lose the benefit of the mercurial course which it was supposed she had begun, she was ordered five grains of blue pill every night, and the mouth became sorer. The eruption slowly faded, and the ulcers on the labium improved. About the 17th, a new crop of papulæ appeared on the back of the neck and behind the ears, which itched greatly. Nov. 20th, the mercury was discontinued, and seven grains of the iodide of potassium, in

decoction of sarsaparilla, were ordered to be taken three times a day. On the visit three days afterwards, a very manifest and striking improvement had taken place in her health and appearance, and she is now perfectly well.

Patrick M'Guinness was admitted an hospital patient, under the care of Mr. Carmichael, Jan. 7, 1812, on account of a small superficial ulcer on the prepuce, without any surrounding induration, that had existed three weeks, and a large tumor in the right groin, containing matter. Nitrous acid ordered. January 25, the ulcer of the prepuce had healed, the bubo had uleerated, and the enlarged gland was projected through an opening on the skin, forming an ulcerated tumor of considerable size. Feb. 6, a thick eruption of small papulæ of a red colour had appeared on his face, neck, and shoulders, attended with considerable fever, and severe pains in his shoulders, elbows, knees, and ankles. He also complained of soreness in his throat and difficulty of swallowing. On examination there was not any any ulcer, but a general inflammation of the fauces, and a peculiar raw and excoriated appearance of the back of the pharynx. He was directed to discontinue the nitrous acid, and to take the antlmonial solution. Feb. 22, the eruption continued: many of the spots, after forming minute pustules in their acuminated tops, had declined in exfoliation of the cuticle, while fresh papulæ at the same time appeared in other parts. He complained of the severity of the pains, particularly in his knees, which shot along the muscles of his legs, but he did not complain of any pain affecting the tibia: his pulse was 112, with considerable thirst and restlessness. Twelve ounces of blood were taken from his arm, and the antimonial solution continued. The blood taken was buffed and cupped, and he felt considerably relieved after this depletion.

March 1st, he was directed to take decoction of sarsaparilla in conjunction with the antimonial solution, the febrile symptoms having nearly subsided, and before the 8th the eruption had every where declined, and, in some places, disappeared. He still complained of the pains in his joints, which, however, were considerably alleviated. As a remedy for these, fifteen grains of the compound powder of ipecacuanha were ordered: the decoction to be continued, and the tepid bath to be daily employed. Under this plan his pains were soon removed, and the eruption disappeared, leaving the skin discoloured with indistinct red marks. March 15, he was discharged well.

On the 1st of May he returned, complaining of severe pains in his joints, and an eruption of papulæ on his arms. His pulse was 110, with thirst and general fever. He stated that since he left the hospital he was exposed to the inclemency of the weather, and that he had been affected with three several crops of the eruption, accompanied with pains resembling those of rheumatism. He was bled to sixteen ounces, and the antimonial solution ordered. The blood taken from his arm was thickly buffed. His pulse was next day reduced to 90, and the pains were considerably alleviated. 10th, the eruptions had declined, and there had not appeared any fresh spots. He stated that his hair was falling off. 17th, the ankles were swelled and painful. Alterative doses of calomel, with antimonial powder, ordered; half a grain of the former, and three of the latter, three times a day. Under this plan his pains were relieved, and his complaints to all appearance removed. Discharged on the 7th of June.

III. Ulcerative affections of the skin.—It has been already mentioned that ulceration occasionally takes place in protracted psoriasis of the common description; but the ulceration is superficial and limited, and it does not extend deeper nor materially wider than the mere surface of skin that has been the seat of the blotch; it is rather excoriation than ulceration, and it soon spontaneously cicatrizes. In that form of psoriasis in which the patches are clustered in groups, ulceration is more frequent, and it is liable to assume a virulent aspect, to destroy the whole thickness of the skin, and to evince a disposition to spread. I have never, however, seen the complaint in this form intractable to medicine, or presenting that degree of virulence which belongs to the ulcers that follow the eruptions now to be described. These are, lepra, tubercle, ecthyma, rupia. I have placed lepra first on the list, because its features are transitional between psoriasis and the other eruptions named. Lepra does not necessarily ulcerate; in this it approaches psoriasis,

as well as in its scaly character; but its ulcerative form, on the other hand, is liable to exhibit the utmost virulence, and on that account it deserves a place under the present head.

I am therefore surprised at reading, in Mr. Babington's notes to Mr. Palmer's edition of Hunter the following statement, which comprises what Mr. Babington has thought it necessary to add to the text, under the heads of *psoriasis* and *lepra* :—" Scaly eruptions are very common in venereal cases, but they differ little from those which occur from other causes. They appear generally in small circular spots, but they vary much in the degree of elevation, the size of the spot, and the depth of its colour; yet they never assume the copper tinge of the tubercle. The colour is rather sandy, and is in almost all instances nearly effaceable by pressure. The difference of colour, the superficial origin of these eruptions, and the total absence of ulceration in all forms and stages, sufficiently distinguish them from tubercles." Now I have mentioned a case (page 352) in which psoriasis on the forehead left the true coppery stain to which Mr. Babington refers as peculiar to tubercle; and I have several times witnessed the supervention of the ulcerative stages both of psoriasis and lepra, which I have described and shall exemplify. Mr. Carmichael gives an excellent plate of venereal lepra, with one of the patches in the crusted and ulcerated state.

Lepra.—The following is Dr. Willan's account of siphilitic lepra:—" In the venereal disease circular patches sometimes appear, which resemble those of the lepra nigricans in size and colour, but which are not incrusted. The dryness and harshness of the skin, so remarkable in the lepra vulgaris and alphoides, do not occur in the venereal lepra, its patches, when somewhat advanced, being as soft and pliable as other parts of the skin. It is, however, proper to observe, that every patch originates from a small, hard, reddish, protuberance. As this gradually dilates, the increase of its circumference is not attended with an increasing elevation of the centre; on the contrary, the sides of the patch are somewhat raised, and the central part of it appears a flat surface, covered with thin white scales. The patches are generally distinct, and at a distance from each other. There is seldom seen any of them exceeding the size of a shilling; yet it is probable they might obtain a greater magnitude if the progress of the disease were not arrested by the use of mercury. When the constitution is under the full influence of mercury, the sides of the patch shrink and become paler; the centre is also depressed, but the desquamation proceeds slowly, and the disease cannot be removed without a perseverance in the course for six or eight weeks. A circular red spot usually appears for some weeks in the place of every declining patch, and a minute shallow depression like a cicatrix is left at the centre; but no permanent discoloration of the skin remains. The leprous form of the siphilitic eruption takes place, like other venereal eruptions, at very different periods after infection in different cases. If no medicines were employed, it would at length terminate in ulcerated blotches."

Nothing can be more faithful than the preceding description; but it applies to the mildest form of siphilitic lepra, of which the deficiency of scales, mentioned by Dr. Willan, is a remarkable characteristic. But the picture of the disease is imperfect without the following touches by Mr. Carmichael:—" If mercury is not employed," observes Mr. Carmichael, " the eruption proceeds to ulceration in the following manner. Each spot is covered by scales, or by scurf, which is thrown off and succeeded by another; every succeeding scurf which is formed becomes thicker than the preceding, till at length it forms a crust, under which matter collects, and it becomes a true ulcer; in which state it spreads but very slowly." Reserving for future consideration the question of the propriety of using mercury in these cases, I would add, that in the most virulent forms of lepra, the quantity of desquamation is often considerable, the patch of inflamed skin being covered by numerous fine layers of white papery glistening cuticle; and that finally when a crust has formed of agglutinated secretion and layers of cuticle, the ulcer which follows on its separation is capable of spreading as rapidly as in any form of secondary siphilitic disease, assuming features which will be given with ecthyma.

Tubercle.—All the siphilitic eruptions which belong to the head of tubercle, are not ulcerative. A woman was a patient in the Middlesex Hospital, with a crop of red, glossy,

berry-like tubercles, of the size of peas, upon the lower part of the face, which, from her history, were probably siphilitic, and went away with mercury. A man who had been my patient with scaly eruption, several of the patches of which had gone into superficial ulceration, returned at the end of two months with oval tubercles on his back and shoulders, at the point where the scaly eruption had been. They were convex, of a light pink colour, rather mottled in appearance, some of them an inch in length. In some there was sensation, but not amounting to pain. He was otherwise in good health. Mercury was given without any effect. In three or four months afterwards these tubercles spontaneously went away.

Ulcerative siphilitic tubercles are of two descriptions: with the first I am practically familiar; of the second, I shall give Mr. Babington's description.

Common siphilitic tubercle is a raised, oblong, or circular convex patch of soft, thickened, red, inflamed skin, the surface of which, before long being excoriated, becomes covered with a thin crust; that separating, discloses a foul or yellow ulcer, of greater or less depth. Tubercles of this kind are liable to form on the forehead, eyebrows, nose, and face; on the chest and back, and on the limbs. They are the source of the disfiguring ulceration to which the face is liable in siphilis. Upon the brow, the ulcer sometimes spreads in an irregular serpentine course, healing at one end while it progresses at the other. The ala or tip of the nose, however, are parts more frequently eaten away. The ulcer proceeding from this source is slow in its progress, and continues surrounded by a considerable extent of inflammatory thickening and redness. Upon the nose and cheek, ulcers of the present kind are liable to crust over; when it is only known whether the ulceration is progressing or not under the crust, by the continuance or cessation of soreness, pain, or burning in the part, and by the increase or diminution in the inflammation of the surrounding integument. These ulcers upon the body and limbs are more or less circular, seemingly deep from their raised, thick, red edge, and have a foul surface; and they enlarge very slowly.

The following is Mr. Babington's description of another form of tubercle:—

"The original seat of the tubercle is probably in the sebaceous glands, certainly in some structure which is below the surface of the cutis. This is sufficiently evident from its aspect at the period of its commencement. It appears, in the first instance, as a small hard substance, like a pea, which may be felt by the finger, before there is sufficient discoloration to attract the eye. At this period, the eruption is scarcely discernible if the light falls directly on the part, though, if it is viewed by a side light, the prominence is sufficient to cast a distinct shadow. However, this stage is of short duration; the inflammation soon reaches the surface, and the spot then wears the appearance of a small red elevation, evenly rounded on the surface. In the next place, the cuticle dies and becomes detached from the cutis; but it usually remains for a time, forming a horny cup, which covers the surface, and protects the formation of a new cuticle beneath. In this stage, it frequently resembles a large vesicle, but the appearance is deceptive. If the dead cuticle be removed by a probe, not a particle of fluid will be found under it.

"The tubercle may remain in this state with little change, except that it slightly enlarges, and that successive layers of cuticle desquamate from the surface. But it often happens that it goes on to ulceration. In such cases, the ulcer always commences at a central point, which is slightly depressed, and may be distinctly seen on the first removal of the cuticle, and which appears to be the orifice of the sebaceous duct. As the ulcer proceeds, it usually destroys the centre of the tubercle only, and leaves an indurated and elevated portion, by which it is encircled and separated from the sound skin. In the progress of the ulcer, this tubercular thickening continues to precede it, so that there is always a margin of red induration, more or less marked, as the powers of the system are greater or less; frequently of considerable breadth in those who are strong and vigorous, but in the feeble often so slight as to be scarcely distinguishable; yet in all cases leaving, as it subsides, the peculiar brown stain which is the chief characteristic of the tubercle."

Ecthyma consists in an eruption of large flat pustules, with an inflamed base. They are of variable magnitude, from a third to more than half an inch

in diameter. They are seldom numerous; they are liable to appear on the body, on the limbs, and on the face. If the secretion at first forms a crust upon them, the crust does not remain, but the pustules shortly become ulcers.

The character of these ulcers is strictly phagedænic; not in the sense, indeed, in which that word has been before introduced in this account of siphilis, but in its general sense. The primary phagedænic ulcer has commonly an irregular outline, may eat deeply, and the discharge from it is capable of producing a specific ulcer by inoculation. The secondary phagedænic ulcers which follow ecthyma, or virulent lepra, or rupia, are, on the other hand, at their commencement, always circular; they are shallow, and inoculation with the matter secreted by them does not produce an ulcer. As the secondary phagedænic ulcer spreads, it commonly retains for a time its circular outline; the skin immediately surrounding it is red and inflamed, and slightly thickened, to the distance of a sixth of inch or more; the edge of the ulcer is yellow, with a few red points shewing through it; the ulcer does not go deeper than the skin; its surface is therefore level. The central part is often covered with healthy granulations, while the edge is eating on with the character above described. Approaching towards the edge, the surface becomes covered with a gradually thickening layer of adherent yellow secretion, with granulations shewing through it. Sometimes the surface of the whole ulcer continues a yellowish grey, with red points. The central part, after exhibiting healthy granulations for some time, will cicatrize; but this more commonly happens to one edge and part of the centre at once, the ulcer progressing with its unabated phagedænic character at the remaining segmentary margin. Sometimes the ulcer becomes elongated, and, healing at its middle, becomes two. Phagedænic secondary ulcers are extremely painful, and leave, on healing, disfiguring cicatrices.

Rupia. — The eruption commences with a diffused redness upon a patch of skin. Upon this a flat vesicle forms, of the size of a silver penny or larger, the secretion in which speedily crusts. The same action continuing, new layers are successively formed, each larger than the last; so that what seems a yellowish-black conical horn gradually arises from the skin. Below this the skin has progressively ulcerated, to an extent measured by the last formed layer of crust; a ring of inflamed skin surrounds the margin of the crust: if the crust is forcibly detached, the ulcerated surface is found red, vascular, and honeycombed—an organized secreting surface. The crust separating, the ulcer is liable to spread to a considerable magnitude, with the phagedænic character just described.

With either virulent lepra, tubercle, ecthyma, or rupia, indifferently, secondary ulceration of the integuments of the head and of the lower part of the face, has one character. It is always crusted; and if the crust is detached, a new one forms. The ulcer is circular, and most virulent at its edge; the centre sometimes healing, while the circumference or a segment of it is progressive.

Rupia is liable to appear over the whole body, but generally the spots are but few at a time. When the disposition is rife, large prominent vesicles full of serum sometimes appear among the crusted eruptions, and bursting, expose an excoriated surface, which dries up and heals.

[To be continued.]

ON THE

TREATMENT OF BRONCHOCELE.

By John Charles Hall,

F.L.S,. F.M.B.S., Member of the Royal College of Surgeons, London, &c. &c.

(*For the London Medical Gazette.*)

The first questions a student asks when the name of any disease arrests his attention, are (or ought to be), what is this complaint; where situate; on what does it depend? Possessed of this information, it behoves him, in the second place, to inquire, what are the most successful means of treating it.

The term bronchocele is derived from the Greek words, *βρονχος*, the *wind-pipe*, and *κηλη*, a *tumor*; it is named by the Swiss *gotre*, or *goître*; you frequently see it among the inhabitants of the hills of Derbyshire, where it is commonly known as Derbyshire-neck.

Bronchocele may be either simple or

compound: the *thyrophraxia* of Alibert is the most common form of the disease, and is nothing more than an enlargement of the thyroid gland, the skin covering the part being unaltered in structure, and not involved in the disease. For the most part it is free from danger, unless it becomes so large as to impede respiration. It is free from danger, simply because the duties of this gland in the economy of our nature are not so important as to be essential to the continuance of life. One case, however, is mentioned, in which the disease assumed a cancerous form, and the woman afflicted with it perished in consequence.

The seat of bronchocele, therefore, is generally found to be the thyroid gland, although cysts are sometimes formed in the cellular membrane surrounding it: this leads us to speak—

2dly, Of compound bronchocele.—Here we have the disease in the greatest possible severity: sometimes calcareous and other heterogeneous substances are connected with it; at others the gland itself is attacked with true sarcoma.

The term bronchocele, in England, always signifies simply an enlargement of the thyroid gland, which not unfrequently occupies a space extending from one angle of the jaw to the other; and also forms a swelling on the front part of the neck.

This swelling is more or less irregular in form. At the first it is generally of a soft spongy feel; the skin retained its usual hue. If the disease, however, remains for a considerable time unattended to, the veins of the neck frequently become varicose.

Prosser remarks—"The tumor generally begins between the eighth and twelfth years; it enlarges slowly during a few years, but at last it augments very rapidly, and forms a bulky pendulous tumor. Women are far more subject to the disease than men; and the tumor rapidly increases during their confinement in childbed." Sometimes bronchocele affects the whole of the thyroid gland, that is to say, the two lateral lobes and the middle portion; and here it sometimes happens that you may observe three tumors of unequal size. Sometimes after death the gland has been found perfectly free from disease, the tumor having formed among the surrounding lymphatic glands and cellular substance.

Burns, in his Anatomy of the Head and Neck, remarks "that when one lobe of the thyroid gland is affected, it may extend in front of the carotid artery, and be lifted up by each diastole of this vessel, so as to have the pulsatory vibrations of an aneurism." Some authors have observed, also, that the right lobe is more frequently enlarged than the left; this fact, I believe, was first mentioned by Alibert; and Mr. Rickwood tells us "that he has witnessed the same thing in every case that came under his notice in the neighbourhood of Horsham, Sussex*."

This disease is common in most of the valleys of the Pyrenees, Appennines, and Alps. In fact, there are certain localities where it is so frequent, that you can scarcely find a single individual altogether free from it. In the Tyrol and Corinthia there are to be found whole villages in which, without exception, all the inhabitants have these swellings; and they are considered indicative of additional personal charms. In many the swellings are so large as not to be concealed by any kind of clothing.

A state of idiotism is another affliction not unfrequently attendant upon bronchocele, particularly in countries where it abounds; yet all who are attacked with bronchocele are not idiots, or cretins as they have been called. In Italy and elsewhere it is met with in persons whose mental endowments are of the highest possible order. A patient whose case I shall shortly mention was a young lady of considerable talent, shewing an aptitude to acquire whatever she attempted to learn. Several writers, and among them Fodéré, have ascribed the state of the mind to the affection of the thyroid gland. This opinion, however, seems to have been arrived at without any reason; for in idiots the mental faculties are weak from their earliest years. In many, also, idiotism is complete where we find no enlargement of this gland, or even a tendency to enlargement, and in cases where the tumor is too small to impede the current of blood to the head. It would consequently appear that the cases in which weakness of intellect and

* Vide Med. and Phys. Journal, 1823.

goitre have been observed coexisting, must have been accidental; and this conclusion appears strengthened, when I remember that I have of late frequently observed bronchocele in particular districts, and at the same time seldom or never observed any of the inhabitants to be idiots.

Mr. Cooper, in his last edition of his Surgical Dictionary, remarks, "that bronchocele is not confined to Europe; it is met with in almost every part of the globe. Professor Barton, in his travels amongst the Indians settled at Oneida, in the state of New York, saw the complaint in an old woman, the wife of the chief of their tribe. From this woman he learned that bronchoceles were by no means uncommon amongst Oneida Indians, the complaint existing in several of their villages. He found also that the varieties of the disease were the same as in Europe."

The great danger of bronchocele in this country, appears to be, as above stated, the difficulty of respiration produced by the pressure upon the windpipe by the tumor, and other glands which become enlarged; for by disordering the pulmonary circulation the pulse becomes quickened, irregular, and very frequently intermittent. A strong throbbing is excited in the region of the chest, followed, as some writers remark they have observed, by even fatal disease of the lungs; consequences frequently not supposed to have any connection with this disease, though, in truth, the bronchocele has been the primary cause of them.

Causes of Bronchocele.

It would appear from what we have stated—from the observations of all writers upon this subject—that certain districts tend to produce this affection of the thyroid gland. Some have gone so far as to assert that change of air is more efficacious than any remedy that can be used. Again, it has been attributed (and apparently with some degree of reason) to certain chemical properties in the water; and Dr. Odier gives credit to this theory, because he observed "that distilled water not only prevented the increase of the swelling, but also tended to lessen its bulk. However, every explanation is very unsatisfactory, particularly when we call to mind this passage in the writings of that justly celebrated physiologist, Humboldt. "Persons afflicted with bronchocele (he observes) are met with from Honda to the conflux of the Cauca, in the upper part of the course of the Magdalen River; and on the high flat country of Bigota, 6000 feet above the bed of the river. Now the first of these three regions is a thick forest, while the second and third have a soil destitute of vegetation; the first and third are particularly damp; the second is peculiarly dry. In the second and third region the winds are very tempestuous; in the first the air is stagnant.

Temperature.

	Centigrade degrees
First and second region ..	22 and 33
In the third	4 and 17

Again, the waters drunk by the inhabitants of Mariquita, Honda, and Santa Fé de Bogota, where bronchoceles occur, are not those of snow, and issue from rocks of granite, freestone, and lime. The temperature of the waters of Santa Fé and Mompor, drunk by such as have this disease, varies from nine to ten degrees. Bronchoceles are more horrid at Mariquita, where the springs which flow over granite are, according to my experiments, chemically more pure."

So much, then, for the influence of local causes in producing this disease, at the same time we must admit that certain districts are more subject to goitre, although there are few parts of England altogether free from it. This leads me to speak, lastly, of the

Treatment of Bronchocele.

I have divided bronchocele into two kinds — 1st, simple; and 2dly, compound; to the treatment of the former, however, I shall confine my remarks in the present paper. Without entering into a critical examination of the favourite plans of different surgeons, I shall extract a few cases from my note-book illustrative of the method of treatment that I found to be most successful.

Case I.—Miss Mary R. æt. 17, somewhat below the middle height, thin, and of rather a sallow complexion, came with an enlargement of the thyroid and glands, which she said she had been suffering under for the last six months, during three of which she had been under the care of a surgeon who had given her Tr. Iodinæ in large doses. The catemenial discharge, though not altogether

wanting, was pale and scanty, the periods being very irregular; the tongue was furred, with red edges; the bowels costive; frequent headache; and a disinclination to move about; fancies she is thinner since she took the iodine.

I thought it would be useless to attend to the enlarged gland until her general health was improved; I therefore ordered her to live upon

New milk with meat once a day; the meat to be dressed in the plainest manner; to avoid pastry and vegetables, and to take as much exercise as her strength would permit.

I likewise ordered her to take the following pills three times a week, at bed-time.

℞. Pil Hydrarg. gr. ij.; Pil. Rhei. co. (E. P.) gr. viij. Misce ft. pil. ij.

She also took the following mixture:

℞. Inf. Gent. co. ʒiij.; Sodæ sesquicarbonatis, ʒj.; Tr. Aurantii, ʒss; Aq. Cinnam. ʒiiss. Capiat coch. iij. mag. ter quotidie.

Under this plan of treatment she gradually recovered her health; the yellow appearance of the conjunctiva was exchanged for the hue of health; the sallowness of the skin was removed; the bowels were in a more healthy condition, to use her own words, "if it were not for my neck I should be quite well, but it hurts me when I sing."

The bronchocele during this time (about one month) remained much the same: if any thing, it rather diminished than grew larger; it was, however, still very large, the whole gland being affected. The tincture of iodine having failed, as well as the local application of it, I determined to adopt a plan that I had before found to be successful, and which I have every reason to think will succeed in the great majority of cases. I first ordered the application of six leeches to the part; these were repeated three times during the first ten days, the part being well fomented three times a day with warm water.

℞. Liq. Potassæ. ʒj.; Tr. Card. Co. ʒji. Misce Sumat. ♏ xv.. ter quotidie. ex. inf. Zingiberis.

The liq. potassæ was gradually increased to ♏xxiv. three times a day. I then thought it advisable that some local application should be made use of, and the following ointment was ordered to be applied (rubbed in with the hand) twice a day, the part being first well washed with warm water for at least a quarter of an hour.

℞. Potass. Iodidi, ʒj.; Ung. Cetacei, ʒj. Misce ft. ung.

This plan of treatment was steadily followed during the months of June, July, and August, the patient taking once a week a pill composed of pil. hydrarg. et ext. colocynth, with a rhubarb draught the following morning. The last week in August she came to me without the slightest remains of the bronchocele—perfectly recovered.

Case II.—Mary Padley, æt. 14. Her mother has a large bronchocele, which has not increased for some years past. "Her daughter had some difficulty in swallowing, and at length they found a small tumor." It is now about the size of an orange, situated on the right side of the gland, and gradually increasing towards the other side of the neck. She is very much out of health; complains frequently of pain in the head; a great disinclination to take food. Has menstruated once, about two years ago, but never since. The mother, who lived formerly at Derbyshire, says that all her own family are subject to goitre. The girl is of rather light complexion, blue eyes, thin and tall.

To live upon a milk diet, with meat once a day; to avoid fruit pies, (upon which she says she has almost lived for the last two years,) and vegetables.

℞. Pil. Hydrarg. gr. j.; Pil. Aloes, c. Myrrh. gr. iv.; Ft. Pil. alternis noctibus, sumenda.

℞. Vin. Ferri. ʒj.; Aq. ʒss. M. ft. haust. ter quotidie sumenda.

For some time subsequently I treated this case with the tincture of iodine, but the tumor increased gradually till I substituted the liq. potassæ in the same doses as in the former case. The gland was leeched twice, and rubbed with the same ointment. In three months the swelling had altogether vanished, after which the girl was directed to attend particularly to her health, to keep her bowels open, and to avoid improper food. I heard from her a few days ago; the bronchocele has not returned.

Case III.—John J., a boy æt. 13. Left lobe affected; but small, not larger than a walnut. A blister was applied; after it had healed, leeches, alterative medicines, and liq. potassæ. This case was cured in six weeks. No local

application after the blister and leeches, except friction with the hand.

Case IV.—Mrs. R. (the aunt of Case I.) observed about three years ago that shortly after her last accouchement a swelling appeared in the front of her windpipe; it has gradually increased in size, and is now very large, extending down the neck. She complains of "her health being very bad." Her hair is of a light colour, rather inclining to a sandy tinge; the eye-lashes are light; the eyes blue; the complexion pale; the whole appearance enemic. She was ordered blue pill and colocynth, with some bitter infusion and soda; after which leeches were applied to the tumor; a blister afterwards. The gland to be well fomented with warm water, after which the following ointment to be applied twice a day.

℞. Potass Iodidi, gr. xxx.; Pulv. Iodinæ, gr. x.; Ung. Cetacei ʒj. Misce ft. ung.

She is now taking ɱxxiv. of liq. potassæ three times a day, and when last I heard from her the bronchocele was gradually diminishing. At some future period I will inform your readers of the result of her case.

I could multiply these cases, were it necessary; but must not longer intrude. I will only remark that I think we may conclude from what has been stated, 1st, that although it abounds in certain localities, that we know not on what it depends; or why it should abound more particularly in Switzerland or Derbyshire than other places; 2ndly, that we have no reason for concluding that goitre should produce *cretinism*, although the two are frequently combined; [Dr. Wilson remarks that "he has observed epilepsy and bronchocele to exist in the same person;"] 3dly, that it is highly important to attend to the general state of the secretions before attempting to make use of specific remedies; and also that considerable advantage appears (in the cases I have seen) to result from fomenting the part affected with warm water (previous to using the iodine ointment); the application of blisters, and the local abstraction of blood by leeches; the exhibition of liquor potassæ, and alterative medicines. At some future period I shall be happy to resume this subject; for the present I refrain from trespassing longer.

Bath Place, Kensington,
Nov. 1839.

ON THE OBTAINANCE OF CERTAIN PHYSICAL LAWS IN THE ANIMAL ECONOMY.

To the Editor of the Medical Gazette.

Sir,

I have inclosed for publication the following paper, upon a subject which, as far as I am aware, has been hitherto unnoticed. Should you deem it of sufficient importance, its insertion in your valuable journal will oblige,

Your obedient servant,
Charles Ferneley,
M.R.C.S.

Denton, near Grantham,
Oct. 30, 1839.

Man, though endowed with mental faculties in addition to possessing an organized frame most perfectly adapted to his varied relations with the surrounding world, has nevertheless that structure governed by some of the laws which regulate not merely the frame of inferior animals, but also the relations and conduct of inorganic matter; and upon the conformity of his structure to these laws (they being subject to the influence of vitality) does his health, nay, in many cases his very existence, depend. To illustrate some of these is the object of the following remarks.

One of more importance than on first view we should be inclined to imagine, is the general rule, that when an arterial trunk divides, the sum of the diameters of its branches is greater than the diameter of the trunk; and, as the necessary consequence, the combined circumferences present a greater superficial extent than the circumference of the trunk. The same is observed of veins. The analogous case in inanimate nature is the conduct of running water, of which two equal streams do not, when united, occupy a bed of double surface: the law being, that when several tributary streams unite, the superficial area of the fluid mass is less than that previously occupied by the separate streams*. No river affords a more striking illustration than the Mississippi, which is half a mile wide at its junction with the Missouri, the latter being also of an equal width; yet the united waters have only, from their

* Lyell's Geology, vol. i. p. 266.

confluence to the mouth of the Ohio, a medial width of about three-quarters of a mile. The junction of the Ohio seems also to produce no increase, but rather a decrease of surface. The St. Francis, White, Arkausas, and Red rivers, are also absorbed by the main stream with scarcely any apparent increase; and on arriving at the sea at New Orleans, it is somewhat less than half a mile wide*.

The parallelism of the two cases is such, that we may conclude that the same cause which governs the one has evident connexion with the other. We will illustrate this disposition in the case of arteries, as being of greater interest to the physiologist. In order to understand the *rationale* of this law and its dependencies, it is necessary before proceeding further, to state, that in these remarks the term velocity is intended to express the space over which any particle flows, divided by the time, without any reference to the volume of the current. By the terms rapidity or velocity of the current or discharge, is meant the quantity which the vessel under consideration is capable of discharging in a given time, and which quantity will be equal to a volume of fluid, having the area of the orifice for the base, and the velocity for its height†. We must also assume as postulates, that the transverse sections and orifices of the arterial tube are circular, and that in a healthy state their elasticity is such as to preserve their parietes in immediate contact with the contained blood; they being capable of dilatation upon an increase, and of contraction upon a diminution of that fluid.

But to proceed: we will suppose any transverse section of the blood, *i. e.* a volume possessed of infinitely small length, but having a certain determinate area to be moved forward by the circulating forces; this, in its turn, arrives where the artery divides. Then must the sum of the areas of the branches be not unequal to the area of the trunk, lest the equilibrium of quantity be destroyed; were they less, there would be partial stagnation; were they greater, vacuity, both of which may be considered incompatible with the provision of arterial elasticity. Now circles are to one another as the squares of their diameters (Euclid, xii. 2), and therefore will the conjoined diameters, and consequently the circumferences or superficies of the branches exceed those of the trunk from whence they spring. If not, let them be equal to it. Suppose an artery having a diameter of 4 to bifurcate, and the diameters of the branches to equal 2 each; then will 4^2 or $16 = 2^2 + 2^2$ or 8, the greater to the less. Therefore it is impossible (the forces and times being uniform) for those branches to carry away the fluid from a corresponding trunk, whose diameter much exceeds 2·8282; a proportion apparently coinciding with the example given of the Mississippi.

In order to prove whether these relative dimensions are observed in the arteries, I injected several from a sheep, and found that the squares of the diameters of the trunks, and those of the branches, so nearly coincided, that the trifling difference which existed might be considered owing to inaccuracy of measurement, which would only amount to the square root of the difference, and which can scarcely be wondered at, since each unit was only the one-fortieth part of an inch. The vessels were dissected out, their cut extremities tied, and wax injected whilst they were immersed in tepid water. The following are some of the results:—

Diameter of Trunk.	Diameter of Branches.	Or squared.	Difference.
9·	7·5 + 5·	81· = 81·25	0·25
7·2	6· + 4·	51·64 = 52·	0·36
3·5	3· + 2·	12·25 = 13·	0 75
7·	5· + 5·	49· = 50·	1·
17·	10· + 10· + 9·5	289· = 290·25	1·25
10·	7· + 7· + 2·	100· = 102·	2·
4·5	3·5 + 3·	20·25 = 21·25	1·
8·	4· + 7.	64· = 65·	1·

* Op. cit. p. 282.

† Playfair's Outlines of Natural Philosophy, vol. i. p. 195.

The three first examples were from the mesenteric artery of a sheep, the next three from the aorta and iliac arteries, and the two latter from the horse.

This arrangement of the vessels has reference to several important effects. One is, that the velocity of the blood is uniform throughout the arteries, as depending chiefly upon each individual ventricular systole, of the quickness of which the pulse thus becomes a measure, as well as of its frequency; for when a current is in a state of equilibrium as regards its forces, the velocity in different transverse sections may be very unequal, on account of the variations of the areas of those sections, through all of which the same quantity must flow in the same time, "the mean velocities being inversely as the areas of the sections*. This uniformity of velocity affects the rapidity of discharge, for the quantity of water that issues in one second through a given orifice is equal to a column of water, having the area of the orifice for its base, and the velocity with which the fluid issues for its altitude†. Consequently the rapidity of discharge through the arterial branches, as measured by the forces of the current, would be as their respective areas. This agrees with the experiments of M. Pouseville, who found that the force of the current of blood in all arteries sufficiently large to be experimented on, is relatively the same; that in the aorta, for example, bears the same relation to its diameter, as that in the artery at the wrist does to *its* diameter; so that the diameter of an artery may be taken as a measure of the force of the current of blood in it." Thus we derive confirmation that a ratio of equality exists between the areas of an artery and of its branches.

There is an apparent discrepancy with respect to the velocity being constant; for it is said, that the stream of blood will, like a current gradually growing wider, become slower as it becomes more distant from the heart; but this discrepancy vanishes upon attending to the distinction between velocity and rapidity, or velocity of discharge, as given above.

Hitherto we have disregarded the effects of friction. Theoretically speaking, there is a zone of comparatively quiescent particles (whose velocity is least in immediate contact with the sides of the tube, and gradually increasing with the distance from the circumference) surrounding the central stream, so that the water which issues is found by experiment to suffer a diminution in the ratio of 5 to 7, and thus, the effective current is equal only to that of an area, 5-7ths of its actual dimensions; and in the passage of water through long tubes of equal areas, the discharges are in the inverse ratio of the square roots of the lengths. That these effects must exist in the arterial tubes cannot be doubted, although they may be much modified by their elasticity. But the friction is variable, depending upon the force of the heart's action, and the contractile power of the arteries, and it increases as the square of the velocity. Now the resistance being considered constant, which it is during each pulsation in any particular vessel, it follows that the quicker the circulation the greater the distension of the arterial trunk, and as a consequence, the still greater increase of size of its terminal branches: for, if we assume the law that these are in the squares of their diameters equal to the square of the diameter of the trunk, a trifling increase of this would in much greater degree enlarge those. May not the converse of this explain the therapeutic action of nauseants in subduing inflammation? They, by diminishing the force of the circulation, would diminish the friction, and thus mediately lessen the volume of the capillaries.

That those diseases which affect the natural magnitude of the arteries should affect the circulation through them, is evident from the foregoing remarks. In the early stages of aneurism, if there be a simple dilatation of the whole circumference, or of its greater portion, as occasionally happens, we should expect the velocity of the blood to be diminished; but as the trunk resumes its original calibre, the velocity would return to its general standard, according to the law previously mentioned. Dr. Black's 9th corollary, recorded in the MEDICAL GAZETTE, for July 14th, 1838, page 643, coincides with this. "The *vis a tergo* being a constant force, the velocity of the blood is inversely as the diameters of any set of vessels compared with the capacities of those which immediately precede them." When the

* Playfair's Outlines, vol. i. p. 205.
† Op. cit. p. 195.

passage from the artery is narrow, and the fundus of the aneurismal sac greater in proportion to its distance from the vessel, as is commonly the case, it would not very much impede the circulation through the trunk, for that in the sac would, from the influence of its form, the communicating not be in a very active state, and hence the tendency to coagulation. But in the more advanced stages, when the coagulum obstructs the current, the artery adapts itself to its diminished contents, so that its lower continuation is found preternaturally small and contracted*. And when any considerable artery, or even the aorta, becomes either much obstructed or entirely obliterated, the collateral arteries which originate above the swelling are manifestly enlarged to carry on the necessary circulation through their anastamosing branches; this enlargement progressively corresponding with the diminution of the calibre of the vessel. This happens whether the obliteration occur by fibrinous coagula, osseous concretions, or morbid growths filling the cavity, or by the advanced progress of aneurism to a spontaneous cure, or by the application of ligature, the curative effects of which, whether Hunter's, Bradsor's, or Dr. Wardrop's method of operation be adopted, the law of equal sections fully explains. In varicose aneurism, we are told in Cooper's Dictionary, page 181, that the artery will become larger above, and smaller below the varix, and a solution given of its cause, by no means incompatible with, but such as would actually be the effect of this law, which, however, is not hinted at. That these effects depend upon the law of equal sections is evident, for the circulating force being constant, the volume of fluid will not escape unless the combined areas of the branches equal the area of the trunk: one branch, perhaps the principal, is obliterated or obstructed, the others enlarge, to supply the deficiency. And when, after a lapse of some months, the circulation becomes carried on exclusively through the inosculating branches of an artery, or arteries, near to the course of the obliterated trunk, the other collateral vessels diminish to their previous dimensions. And if the branches enlarge, as happens to all in growing bodies, and to the arteries of particular parts, when the parts themselves increase their bulk, and at the same time retain their vascular structure, the trunks of those arteries must also enlarge. It is well known that the uterine vessels grow much larger in the time of utero-gestation; the same has been observed in arteries supplying tumors, enlarged spleens, testes, &c.; so that I should suppose, says Dr. Wm. Hunter, "it will be found universally true in fact, and the reason of it in theory seems evident."

There is, perhaps, no pathological condition of the arterial system which better illustrates the obtainance of this law than that which occurs during an attack of inflammation. Whatever theories of the proximate cause be adopted, the redness, the primary swelling, and pain of tension, are universally allowed to depend upon an increased volume of the capillaries; but this increase should, if the law of equal sections be true, be also accompanied by an increase of area of the whole length of the supplying artery. Dr. Hastings says, that "the capillaries are first affected, and the small arteries of the web are occasionally enlarged." Professor Alison, in a paper on the vital properties of arteries leading to inflamed parts, as reported in MEDICAL GAZETTE, vol. xvi. p. 744, informs us that in all cases experimented on, the artery leading to the inflamed part was larger in its whole length than that of the sound limb. Dr. Marshall Hall tells us "this enlargement of the blood-vessels is not confined to the minute arteries, for the larger vessels in the immediate neighbourhood of the inflamed part also become enlarged*. Professor Graves, in a communication on inflammation and the motor powers which cause and regulate the circulation, says, "the capillaries have the initiative; with them commences the enlargement which afterwards extends to the smaller arteries, and from them to the larger branches." Further proofs of the action of this law in inflamed parts may be taken from the means of cure. The local application of cold, by contracting the smaller, would diminish the larger trunk from whence they arise. In the MEDICAL GAZETTE, vol. xviii. p. 500, is an account of otittis checked by pressure on the common carotid, which exemplifies the converse. Diminishing the quantity of circulating

* Cooper's Dictionary, p. 112.

* MED. GAZ. new Series, vol. ii. p. 531.

fluid acts in a similar manner. The immediate relief obtained by bleeding from a large orifice may arise, not merely by arresting the return of blood to the heart, but partly also by having increased, during the continuance of the flow, the number of large branches (for veins are the continuations of arteries), and as a consequence, mediately diminishing the area of the vessels. But if there is an undue proportion of blood determined to any part, some other part must have less; hence, the small and weak pulse observed in most visceral inflammations; hence, the efficacy of counter-irritants, both internal and external, applied to remote organs, and the obvious propriety of the admonition never to stimulate an inflamed part. I have been thus prolix on some of the dependencies of this law, because I think it will give a philosophical explanation of many facts the rationale of which are involved in obscurity. I have neglected experiments, not only because opportunities on the human subject are "few and far between" to a country practitioner, but because there is often an almost involuntary contortion of facts to suit the theory, from which possibly I might not be free, especially as there is no undeviating standard of comparison. I have, therefore, drawn largely for confirmation from facts detailed by others, especially from the Dictionaries of Cooper and Copland, and from the MEDICAL GAZETTE, considering them as an epitome of the experiments and opinions of those eminent men, whose works are quoted in those leviathans of medical literature.

Oct. 1839.

ENCYSTED DISEASE OF THE KIDNEYS.

To the Editor of the Medical Gazette.

SIR,

THE following case of extensive organic disease may perhaps be considered interesting, more especially as an opportunity was afforded of watching the gradually increasing symptoms, from those of mere disordered function, to those of diseased structure. Should you consider it worthy a place in a page of your most valuable journal, its insertion would much oblige, sir,

Your obedient servant,

JOHN TAYLOR.

Westbourne Terrace, Bayswater,
Nov. 20, 1839.

Mrs. Mills, æt. 56, the mother of three children, the youngest being fourteen years of age. She states that from the age of nineteen she has laboured under a violent and almost continued cough, attended with the expectoration of a viscid phlegm, most abundant upon rising in the morning; the cough was always aggravated after meals, frequently causing the rejection of the whole or part of her food. This continued for years, gradually becoming worse every winter, till at last it assumed the character of habitual winter cough, the quantity of expectoration being very much increased, and the frequency of the vomiting so much so, that she lost flesh rapidly.

She states that in the year 1812 she was attacked with inflammation of the liver, (from her description, of a violent character) for which she was salivated; recovering slowly, she has ever since laboured under a torpid state of that viscus, requiring mercurial pills and senna to be administered very frequently.

In February of 1836, my attention was more especially drawn to her case, on account of dropsy having made its appearance in the form of anasarca, ascending from the ankles to the abdomen, which at the same time afforded a distinct sensation of fluctuation; the face also was slightly œdematous, and there was some pain complained of in the right side under the ribs, increased upon pressure, together with a "dragging sensation, as of something growing to the side." The cough and expectoration, which during the previous six months had been less violent and abundant than formerly, now became very frequent and profuse; the quantity of clear viscid sputa expectorated was very large, and the attending dyspnœa urgent; the inferior portions of the thorax were dull on percussion, and the respiratory murmur absent; although, where resonance did still exist, there the murmur was puerile, and the râles mucous. The urine was apparently natural both in quantity and quality. (Albumen alone being tested for). The rhythm of the

heart was normal, its action being only increased in frequency. At this time she was visited by a skilful practitioner, who had formerly attended her, under whose judicious treatment she soon regained her accustomed health.

At this period her cough increased, and the quantity expectorated was still greater, with efforts which continually caused the stomach to discharge its contents, until it was so irritable as scarcely to be able to retain any portion of solid food; if at any time the quantity of phlegm diminished, she felt "oppressed," and the dragging sensation in the right side aggravated.

In July of 1838, I was requested to see her again, for what was supposed to be a state of salivation, since it followed the use of pills containing mercury. The tongue, mouth, and fauces, were covered with isolated sloughs of mucous membrane resembling aphthæ; the gums and cheek of the left side appeared one mass of putrefying matter; shreds of which occasionally came away in an increased flow of saliva. Externally the parts were much swollen, the adjacent glands enlarged and exquisitely painful. Her usual cough had been entirely absent for upwards of a month, but the stomach was more irritable than ever, ejecting a similar kind of sloughy matter to that in the mouth. The pulse was quick and weak, with great prostration of strength, and her complexion sallow, much resembling that of a person labouring under malignant disease. The treatment was first directed to the relief of the more urgent sickness; she therefore took the following, which after the second dose had the desired effect

℞. Acid Hydrocyan. Dil. ♏ iv.; Sodæ Sesquicarb. gr. x.; Aq. Cinnamom. ʒiss. M. 4tis. horis sum.

so as to enable her to retain upon the stomach some slight nourishment, with two grains of disulphate of quina three times in the day, the bowels being for a time regulated by enemata.

To correct the fœtor, and tend to the separation of the sloughs, she used a lotion of sodæ chlor. (one part to sixteen of water,) alternating it, as the ulcers were exposed, with an astringent gargle of decoction of bark and tincture of myrrh. In a fortnight she was well, except an ulcer in the cheek, apparently kept open by the irritation from two of the molares which were imbedded in it: their extraction soon allowed it to heal.

All she complained of during the subsequent twelve months were occasional cramps in the various parts of the abdomen and legs.

Last July, she had a return of aphthæ, only this time they affected the right side of the mouth and right cheek more particularly, which went through the same stages as formerly, and admitted of the same mode of cure, even to the necessity for extracting the molar teeth on that side; but during this attack the concomitant swelling of the face and neck was more generally diffused, and of an erysipelatous redness; the pain also was of a more severe character, and continued until the ulcers were entirely healed. The medicine which most relieved this last symptom was a gargle made by dissolving ʒij. of extract of conium in ʒvi. of water. Although much emaciated and weakened, still she got pretty well again, until the middle of September last, when her bowels became more than usually constipated, her accustomed pills in double doses not having the same effect as formerly; the abdomen became very sore and tender on pressure; "the growing to the side," as she termed it, increased so much as to cause her to incline to that side for relief.

One morning, upon going to stool, a large quantity of dark-coloured blood passed, which was soon followed by repeated evacuations of nothing but blood, both in the fluid and coagulated state, and producing such a state of weakness as to leave little prospect of her recovery, should it continue much longer. Pulse was almost imperceptible; vomiting as urgent as upon former occasions, alternating with the melœna. At this time also the same medical gentleman visited her; and we agreed, since the treatment could only be palliative, to give her some gentle bitter with a diffusible stimulant, and to keep the bowels open by a form of pill, the chief ingredients of which were pil. aloes c. myrrhâ, with a little of the hydrarg c. cretâ. She gradually improved under this plan of treatment, with a few variations, and no return of melœna took place for a month.

But upon the expiration of that period, a sudden discharge of no less than a pint of fluid blood occurred from the bowels, reducing her at once to the same

helpless state as formerly. This last attack was preceded by severe shivering, almost amounting to rigors, for several hours, and by distension and cramps in the abdomen and right side as before; but now they were much more urgent, and particularly acute in the left lumbar region. We could feel in the right hypochondrium what few would have doubted to be the liver, hard and tuberculated, being lost to the touch under the ribs above, and presenting a distinct line of termination below, a little above the umbilicus.

From this state of weakness she rallied only to pass into one of collapse; the pulse became irregular and intermitting, the breathing quick and laborious, the speech was soon entirely lost; and apparently unconscious of all around, she frequently placed her hand on the left lumbar region, as though in pain: pressure over the right hypochondrium now alone aroused her; occasionally she was violently convulsed, and drawn laterally almost double. Fæces began to pass involuntarily, but it was observed no urine was voided that could be perceived. She lingered in this state four days, and died on the 27th of October, after a violent tetanic spasm.

Post-mortem appearances.— Corpse much emaciated. Head was not examined. Chest: Lungs perfectly healthy in structure, lower lobes congested with dark blood mixed with a frothy serum. Heart of its natural size and capacity, valves healthy.

Abdomen: no portion of the liver could be seen while the parts remained *in situ*, its place being occupied by what appeared at first sight to be a large encysted tumor, unconnected with any of the abdominal viscera; but which, upon closer examination, we found to be the right kidney. It occupied the right lumbar region, extending as low as the third lumbar vertebra: passing forwards and upwards, obscuring entirely from view the junction of the ascending with the transverse colon, it reached the inferior margin of the cartilages of the false ribs, and passed for some little distance under them, above which point it was slightly overlapped by the lower margin of the right lobe of the liver; its circumference bore the same proportion to its length as the width and length of a healthy kidney bear to each other, so that it still resembled that viscus in shape.

There was a covering of peritoneum before it, although very delicate from its extreme distension, which was not adherent to any surrounding parts. It might be compared to a bunch of grapes, of a very large size, in the form of a kidney; the cysts of which it was composed being externally very numerous, and so distended with fluid as, to the touch, to resemble marbles, each cyst upon an average being about the size of one, and none exceeding that of a walnut. Upon making a longitudinal section of it, as well as of the left, (which was exactly similar in structure, only less in size, but still visible upon first opening the abdomen,) these cysts were found to be packed so closely together as to start from their places without pressure; upon puncturing one, its contents would be forcibly ejected in a full stream. They resembled in miniature the cysts in one form of ovarian dropsy containing like them fluids of various consistencies and tints of colour; some perfectly transparent, others opaque, many gelatinous, and a few containing pus; but they did not communicate with each other, nor was one contained within another, as in encysted ovarian disease. The pelves of the kidneys were still discernible, although very much dilated, and were the only parts of the natural structure remaining.

Liver was rather smaller than natural, somewhat indurated, and very much tuberculated; a few of which tubercles were in a state of suppuration. In many parts were small cysts, similar to those in the kidneys, containing pure serum.

The stomach was so soft, and its coats so thin, as to give way in several places by the efforts used to break through the gastro-hepatic omentum; its inner surface was unusually pale, and void of rugæ. Spleen was very small indeed.

The small intestines were very much congested, so that you could distinctly trace some of the smallest ramifications of the blood-vessels, and their anastamoses.

The colon was sound to appearance externally, but in three points, viz. at the junction of the ascending with the transverse, the transverse with the descending, and at the sigmoid flexure, there were extensive ecchymoses under the mucous membrane, filling up the sacculi there situated, and so encroaching upon the canal of the gut as to render it almost impervious at those portions.

The uterus appeared healthy, but the

os and cervix, when a section of them was attempted, were found to be of a scirrhous hardness, cutting like cartilage. The ovaria were free from disease. The bladder was quite empty.

CASE OF OVARIAN TUMOR.

To the Editor of the Medical Gazette.

Sir,

In consequence of a severe illness, and absence from town, it is only lately that I have been able to look over the autumn numbers of the Gazette. I observe a case, narrated by Dr. Henry Davies, of ovarian tumor, bursting at the navel, and send you one similar, which occurred under my own eye, when one of the house-surgeons here.

Mary Macpherson, æt. 33, married, of Argyleshire, August 26th, 1834.—Two years ago, towards the conclusion of pregnancy, a swelling appeared at the umbilicus, and gradually enlarged. It now presents an umbilical hernia, about the size of a pullet's ege, containing a knuckle of intestine, which is easily reducible. Five weeks after appearance of tumor, matter formed, and made its way out at the umbilicus, where a small opening still exists, through which a probe can be passed directly backward for five inches, but not laterally. Discharge is copious, fœtid, and sero-purulent. She says she had a stitch in her side before the matter appeared, but it cannot be ascertained whether she had peritonitis. She alleges that, before the opening formed, she passed pus in her urine. Complains much of pain in her back, but in other respects is tolerably well.

There was considerable difficulty in getting a clear account of her case, as she could not speak a single word of English. The pus spoken of had probably been sediment in her urine.

Various opinions were given on this case, some regarding it as abscess external to the peritoneum, and others thinking it a circumscribed one formed in the peritoneal sac by adhesions of the neighbouring viscera. This latter was my own opinion, in consequence of a dissection which I had seen of a patient who had an opening in the very same place; in whom the probe passed in a similar direction, and to a similar depth, and who was supposed to have abscess of the liver. The case turned out to be circumscribed abscess, formed by chronic peritonitis. This Highland woman's story of "the stitch in her side" strengthened the supposition.

Dr. M. S. Buchanan introduced a dilator into the fistula, and expanded it so that the finger could be passed in, when a large quantity of fluid escaped. A large pasteboard compress, with a hole in its centre, was then applied by a bandage, with the view of keeping the sides of the abscess in contact, while the matter might flow out at the opening. It was found, however, that the pus did not get free vent, and a large catheter was introduced and retained, through which about six ounces were daily discharged. On Sept. 29th it was reported that the discharge had diminished to an ounce or two daily, and that a probe could with difficulty be introduced downwards, instead of backwards. This indicated that the cavity of the abscess was contracting. She was then put on calomel and opium till the mouth was affected, while the discharge entirely ceased for a fortnight.

On Oct. 24th above three ounces of greenish pus were discharged, very fœtid; and on the 27th about four ounces more. There had been no poking at the abscess all this time to irritate it.

On the 29th, at 4 A.M. after a severe rigor, she was seized with acute peritonitis, which, notwithstanding the most active treatment, carried her off in 38 hours.

Inspection, Oct. 31st.—By making a semilunar incision on each side of the umbilicus, its connection with diseased parts was preserved. Adhesions to the omentum majus were found. A narrow sinus, about an inch long, led to the cyst from which the matter flowed. This being laid open, was found to form a part of the left ovarium. Its walls were a quarter of an inch thick, it was nearly four inches long, and it was lined with a dark-coloured, vascular, flocculent membrane. On its inner surface were two tumors, soft, like warts, but covered with a membrane, each about the size of the point of the little finger. Their surfaces were covered with papillæ, from which arose, on one side, single hairs; on the other, tufts of hairs, like the eyelashes.

Peritoneal surface of ovaria, uterus, and neighbouring parts, in a high state

of inflammation, covered with false membrane. Orifice of the left Fallopian tube exceedingly vascular and dark red. Inflammation was traced all along its canal to the uterus, whose inside was lined with highly vascular membrane. No trace of communication between the cyst and bladder could be detected. In the peritoneal cavity was about a pound of albuminous serum. The preparation is preserved in my museum.

Your obedient servant,

JAMES DOUGLAS,
Lecturer on Anatomy.

235, George Street, Glasgow,
Nov. 28, 1839.

SLOUGHING OF THE PENIS AND SCROTUM.

To the Editor of the Medical Gazette.

SIR,

A CASE occurred to me upwards of 25 years ago, which made a deep impression on my mind, but as I had never before witnessed any thing like it, nor have I since that time, until within the last few weeks, I was induced to look upon it as one of those anomalous cases which occur so rarely as to throw very little light on general practice. I will endeavour to give a faithful account of the two cases, and I am now disposed to look on them as possessing some degree of interest, and as being perhaps not entirely devoid of instruction. The first case was that of a stout man, aged 30, by profession a teacher of music, residing in a village near Halifax, and a married man of very regular habits; the surgeon who was in attendance informed me that he had seen him, for the first time, on the preceding day, and that the patient informed him that it was only on the previous day that he had first felt some uneasiness in the scrotum; that it very soon became enlarged and inflamed, in which state it was when the surgeon first saw it; he immediately applied a dozen leeches, and afterwards ordered fomentations and purgatives. On the following day I was consulted, being the third day from the commencement, when the whole of the scrotum and penis had assumed a dark red colour, with here and there a black gangrenous spot; the tongue was dark coloured, as in typhus, and the pulse indicated debility. We agreed to give our patient decoction of bark with porter, and to apply an ale poultice, with lint dipped in melted unguentum resinæ flavæ. This plan was continued, with the occasional addition of sp. terebinthinæ to the ointment, until the whole of the scrotum, prepuce, and a considerable part of the penis, sloughed off. The patient's strength was supported, and in the course of a few weeks he recovered so far as to live for seventeen or eighteen years, when he died, I believe, of phthisis. His death took place some years after I had left that neighbourhood.

The second case was that of a farmer, about 35 years of age, residing a few miles from Ripon, who thought that he had caught cold, which had brought on some itching of the penis and scrotum, both of which, in the course of two days, became very much inflamed and enlarged; on which account he sent for a surgeon, who took blood from the arm, applied fomentations, and gave him purgative medicines. On the following day, to his great surprise and dismay, a gangrenous spot appeared on the scrotum. The blood taken exhibited no indication of inflammation. Before he left the house, I saw the patient with him, and told him what, in my opinion, would be the result, which he could scarcely credit: I then gave him an account of the former case, and, as far as lay in my power, put him on his guard. In this case the tongue exhibited the same appearances as in the former. We gave decoction of bark in the porter, and applied an ale poultice, with dressings, similar to those employed in the former case. The inflammation extended along the abdomen as high as the umbilicus, above which there was an eruption resembling the ecthyma cachectieum of Willan. Suppuration took place above the pubes, the whole of serotum and prepuce sloughed off, and the patient is convalescent.

During my attendance in the first case, one morning, whilst the surgeon was dressing the patient, the serotum and penis being in a gangrenous state, a messenger came to request him to go to a woman in labour, who resided about half a mile from our patient, and he obeyed the summons without loss of time. Four or five days after this, on meeting again, he said, "you will recollect that I was sent for to a woman in labour on such a day." I replied yes, what of that? "She is dead; every

thing seemed to be going on well until yesterday, when she was seized with violent pain in the region of the uterus, and she died before I had time to do any thing to relieve her." In the course of two or three days, on meeting again, he said, "It is very odd, Dr. Paley, I have lost another patient in the same unaccountable way as before;" and the next morning, at our meeting, he stated that he had another patient about two miles off seized in the same manner, whom he requested me to visit along with him. After seeing his patient, I told him that she was labouring under puerperal fever, and before we left the house, he was sent for to visit another woman whom he had attended in labour in the same village. I accompanied him, and found her also the subject of puerperal fever. I believe that he had in all six cases of this disease.

I inquired of nearly all the general practitioners in Halifax and the neighbourhood if they had any cases of puerperal fever, but not one could I hear of; indeed, most of the medical men owned that they had never seen a case of it in the whole of their practice. About the same time I was requested to visit a married lady, aged 54, who resided in the same village as the teacher of music, betwixt whom, however, there had not been any intercourse, but she had visited repeatedly the first woman, who had died so unexpectedly. I found that she had been seized, on the day previous to my seeing her, with violent pain of the bowels, which had continued to increase in spite of the means employed. When I arrived she was *in articulo mortis*, and expired before I left the room, which was twenty-six hours after the time she had first felt any sort of uneasiness. In the present day, this case would very probably have been considered as Asiatic cholera; and it is to be regretted that we were not permitted to make a post-mortem examination.

There is not the slightest doubt on my mind that the surgeon who was in attendance was the means of communicating something (call it what you please) from the patient labouring under the disease of the scrotum to the lying-in women, which in them produced puerperal fever; and with regard to the lady last mentioned, the first case of disease after parturition, which in all probability was that of puerperal fever, produced in her a species of enteritis, which in its progress bore a considerable resemblance to the disease of the music-master.

I pointed out these circumstances to the surgeon, and at the same time advised him to go from home two or three weeks, and to have his clothes washed and fumigated; he did so, and the plague (for such it seemed) ceased. These circumstances I also mentioned to the surgeon in attendance on the case which has recently occurred in this neighbourhood. I advised him to wash his hands well previous to leaving the house of his patient, and not to attend any woman in labour, or after her confinement, without first changing his dress. Notwithstanding this precaution, which I believe he rigidly observed, I received a note from him a few days ago stating that he had had some unfortunate cases of puerperal fever.

I have avoided giving the names of the patients and of the surgeons for obvious reasons, and I shall not make any further observations, but leave your readers to draw their own inferences from the facts which I have laid before them.—I am, sir,

Your obedient servant,
ROBERT PALEY.

Bishopton Grange, Ripon.
Nov. 26th, 1839.

CHANCERY CACHEXIA.

ACCOUNT OF AN INDIVIDUAL WHOSE DISEASE AND DEATH WERE OCCASIONED BY THE DELAYS AND VEXATIONS BELONGING TO LEGAL PROCEEDINGS UNDER OUR PRESENT SYSTEM OF JURISPRUDENCE.

BY JONATHAN OSBORNE, M.D. M.R.S.A.
Vice-President of the King and Queen's College of Physicians.

[*For the London Medical Gazette.*]

THE following narrative is presented to my professional brethren, not as possessing any new pathological fact, but as well calculated to rouse the attention to similar cases, and to induce them to use their peculiar opportunities of observing such, to inform not only the profession but the public of the extent of an evil which is permitted to exist for the gain of a few; but, which appears to me so enormous and intolerable, that, like any other nuisance, it must be abated as soon as a sufficient body of

evidence, such as the following, is brought forward on the subject.

The diseased state which I am about to describe being without a name, I venture to propose one taken from the most notorious cause of it, on the same principle as other diseases have been named from their causes, as grocer's itch, painter's colic, &c. I therefore suggest that such cases as the following should be called "Chancery cachexia;" but without thereby meaning any disrespect to any of the learned judges, or to the distinguished nobleman who now holds the seals in this kingdom; being well convinced that many of those eminent individuals deplore the existence of the evil, and would gladly remedy it if they did not find themselves bound down under a weight of precedents and tedious forms, which appear to have been invented solely to render the laws ineffective for the protection of property, and to subject those who seek their protection to an unlimited and remorseless system of plunder.

The subject of the following case was a clergyman of the established church, who had passed through an active and useful life in the enjoyment of uninterrupted health. He was, if I rightly recollect, in the 67th year of his age, when I was requested to see him in the beginning of last year. He complained of symptoms which I referred to irritation of the mucous membrane of the stomach, and a torpid state of the bowels, to which latter affection he had always been a stranger. His habits had been strictly temperate, and all his enjoyments were sought for in the midst of his affectionate family, to whom he had been long endeared by the open simplicity and unceasing kindness of his disposition. When I questioned him as to the cause of his stomach affection, he informed me that it was entirely occasioned by a course of proceedings in the Court of Chancery in which he had become involved, and having been appointed guardian to children nearly related to him, he in that capacity was forced into a litigation respecting the settlement of some of their concerns, which had kept him in a state of perpetual anxiety, agitation, and disappointed expectation, for nearly three years previously. I must confess I sympathised with him, having been then above three years myself detained in the Masters' Office in a matter in which there is no difference of opinion, and which might be settled in three days, and am still kept in it until it shall please the *learned friends* on the opposite side to say that they have got enough—of which I have no expectation, until there is no more to be got. Under treatment, and by a strict attention to diet, he recovered, and was able to resume his accustomed walking exercise for about two months, when I was again sent for. He now complained of cough; his pulse was not excited, and on examination of the chest no other disease was found to exist beyond bronchitis. This yielded to treatment, and I expressed a wish that he should go to the country. This, however, he would not consent to, as the accounts were still uppermost in his mind, and he continued to indulge the hope that by personal attention to them it might be in his power to bring them to a settlement.

In the midst of the awful storm on the night of the 6th of January, a messenger came to say he was dying. I hurried to him, and found him gasping for breath, in a violent paroxysm of spasmodic asthma. On the previous evening he was in his usual health, except that "the law's delay" was observed by his wife to have caused a constant state of perturbation and excitability. By the application of hot water to his hands and feet, a sinapism to the chest, and the use of cordials, his breathing was nearly restored on the following morning, and after a few days he was able to leave his bed. After this, an interval of about a month elapsed, when he complained of cough and dyspnœa. Having ascertained the presence of some crepitus in the right lung, he was bled, and under the usual treatment for pneumonia, in about a week, that, with all the other symptoms, entirely disappeared.

Let it be remembered that all this time the accounts in the Masters' Office were still going on, and that this amiable man, on each recovery of health, was anew exposed to the "hope deferred that maketh the heart sick." His own funds were involved in the cause, so that he had to suffer much inconvenience from the *res angusta domi*. Any reader who has ever been engaged in what is called an *equity* suit, can readily supply what I omit: he can tell how individuals, honourable and estimable in all the relations of life, when engaged *professionally* appear to think them-

selves absolved from ordinary rules of justice*, and witness the fleecing of those individuals who have been so badly advised as to apply to the law for redress, without any compunction—viewing it as quite a professional and proper thing, making no account of the heart-burnings and macerations consequent on the artful delays and delusive hopes of settlement thrown out; it being a very common result, and one which excites much merriment† amongst them, that besides the loss of the property at issue, both parties, plaintiff and defendant, are dismissed out of court utterly ruined.

My unfortunate patient had returned to the accounts about six weeks, when they began to exercise their most usual and what may be esteemed specific action. His appetite declined, a short cough came on, and gradually increased. He did not regard this with any apprehension, his mind being now occupied with daily expectation of a settlement, which, whenever it took place, he was convinced would enable him to recover his wonted cheerfulness and health. I was sent for, and on being informed of his state, examined the chest, and discovered moist crepitus at the left scapular region, with a want of vesicular respiration in the corresponding portion of the other lung. I communicated to the family my opinion as to the nature of the disease which was now commencing, and in a few days afterwards their alarm was much increased by the occurrence of hæmoptysis. Soon after, his strength rapidly declined, and he was compelled to confine himself to bed. His mind was composed, and he contemplated the probability of a fatal termination of his disease with resignation, and a full confidence in the Divine mercy, but always appeared to labour under the delusion that there was a prospect of a settlement of the accounts in the Masters' Office‡.

His state continued much as I have described, except that considerable alleviation of the cough was obtained, until the end of April, when, during one night, he was attacked with peritonitis, without any known or probable cause: and hence it appears that long-continued disappointment and anxiety had produced in a man, previously healthy in every respect, that peculiar temperament consisting in a combination of debility and irritability which we find only in drinkers of ardent spirits, or in those who have been subjected to a long course of grief and anxiety. The patient gains, in these cases, only alleviation, and never a cure, as the recovery from one attack is usually the signal for the commencement of another in some other, and frequently distant, part. This attack of peritonitis was not severe, but as it did not yield to the first remedies which were applied, I called for further assistance. Sir Henry Marsh concurred in the opinion which I had formed, as to his immediate danger. He suffered less pain than usually belongs to peritonitis in the same degree, but the tendency to sink soon became manifest, and he resigned his breath, in peace and charity with all mankind, within forty-eight hours from the commencement of the last attack.

This case is now stated in order to encourage the statement of similar cases. If it be granted that the legal profession, which differs from most others in being utterly non-productive, should yet continue to absorb almost all the honours of the state, and an amount of wealth beyond calculation, still it is another question, and one which, as affecting the public health, is within our province to discuss, whether some limit should not be fixed to the length of legal proceedings, as well as some degree of certainty and efficacy obtained in their results *. As long as litigation can be indefinitely prolonged, as at present, there is no security for health or life, any more than for property. Every man is liable to be crushed, according to law, if he happens to have an enemy who chooses to go to the expense of it.

* It is a fact that the celebrated Turpin was a man of unbounded generosity and benevolence. *He only did wrong in his professional capacity.*

† When Mr. Jackson, our envoy, was at Morocco, he was at a fete given in presence of the Emperor. Amongst other entertainments a negro put his head into a lion's mouth. The animal suddenly began to shake his tail, and in a moment afterwards bit the unfortunate negro's head off. Mr. Jackson felt a thrill of horror, and looked round expecting to see the same, but to his utter amazement the whole assembly was convulsed with laughter, in which even the court ladies appeared to join. So far can habit extinguish the feelings of humanity.

‡ Up to the present time, as far as I can learn, there has been no settlement.

* I have known cases of the utmost distress in families, and one case of insanity, occasioned by loss of income, arising from the facility which the law affords to persons who extort money by holding possession of houses without paying the rent. To this evil is mainly to be attributed the rapid devastation of those parts of Dublin which have ceased to be fashionable.

In detailing the above case of one who fell a victim to our present mode of carrying on legal proceedings, I conceive that I have not stepped out of my province as a physician, or misapplied the valuable pages of this journal. May the recital of it and of others which are under the daily observation of medical practitioners, rouse the public mind to put an end to what is so deleterious and demoralizing. Those in particular who unite in that solemn prayer, that "peace and happiness, truth and justice, religion and piety, may be established among us for all generations," are in an especial manner called on to inquire whether we, as a nation, can hope to enjoy any of those blessings, so long as a system of chicane and extortion is permitted to continue; and they are respectfully invited to the consideration of this and similar cases, to see whether a regard for the public health, no less than for the public morals, does not loudly call for its extinction.

SMALL-POX AND VACCINATION.

To the Editor of the Medical Gazette.

Sir,

My colleagues in the Vaccination Report here have such an increasing dislike to bestow further notice on the futile attacks made on the Report, that I am induced to relieve them of this distasteful occupation by requesting the insertion of a few remarks in reply to Dr. Gregory's last letter.

It argues well for the excellence of the Report, that the assailants in their efforts to depreciate it find it necessary to have recourse to the unworthy expedients of abuse and misrepresentation. In his last letter, Dr. Gregory no sooner quits his preface than he betakes himself to his old method of misquotation. He gives us three sentences which he has patched up by the aid of transposition and interpolation, and then gravely tells us he does not see the force of the argument. It would be rather surprising if he did, since it is usually necessary that an argument should exist before its force can be seen. But in the sentences, even as they now stand, an argument which confounds common origin with identity cannot be found. In fact, the fabricating process was not carried quite far enough for this; and whatever confusion exists belongs to Dr. Gregory, for the Report no where confounds common origin with identity. The most important doctrine in the Report is, that cow-pox and small-pox (or, as Dr. Baron more accurately designates them, cow small-pox and human small-pox) are the same disease; by which is meant, that the differences which do exist are not of such a nature as to affect their generic identity. The malignant or confluent small-pox, the mild or discrete small-pox, the inoculated small-pox, and the cow-pox, are all different species of one disease, variola. The differences existing between cow-pox and inoculated small pox are not greater than between the mildest cases of variola discreta and the severest of variola confluens. Cow-pox was immediately recognised by competent and unprejudiced observers as a true variolous disease. Hoffmann says, "This pox surely will secure against the small-pox, being, indeed, nothing else but a real and true genuine small-pox of the mildest sort;" and Soemmering says that they are *morbi non suâ naturâ sed gradu diversi.* The Report abounds with proofs confirmatory of this truth, drawn from a great variety of independent and unbiassed sources, which the limits of this letter will not admit of my even alluding to. It was never found that the severest and most malignant kind of small-pox gave greater protection than the mildest; and Hoffmann intimates that it was generally believed that one pustule afforded equal immunity with ten thousand, and hence there was a strong presumption that cow-pox would afford equal security with any other species of variola. But do facts warrant this presumption? Does experience bear out another important doctrine of the Report, that the prophylactic powers of small-pox and cow-pox are equal? Undoubtedly, if the just distinction be observed between *having the genuine cow-pox* and *being vaccinated.* Taking into account the quantity of spurious and contaminated matter that has been in circulation, the gross ignorance of some vaccinators, such as quacks, blacksmiths, excisemen, and nurses (see Report, p. 61), and the culpable heedlessness of others, together with the many impediments to cor-

rect vaccination which so frequently exist, it is likely enough that nearly half of those who have been vaccinated have not had the genuine cow-pox. It was therefore rather a matter of surprise with those who examined the returns made use of in this Report, that the information they contained was so favourable to the opinion of the equal prophylactic agency of cow-pox and small-pox. Wherever the practitioner had carefully vaccinated, and ascertained that vaccination had produced cow-pox, there seemed to be as complete immunity obtained as that which results from an attack of small-pox. The returns, therefore, taken as a whole, together with all the trustworthy evidence before us, amply justified the strongest language of the Report on this point. As to the Report from the Small-Pox Hospital, that was such a damaged affair, it was difficult to know what to do with it. Had my advice been taken, there would have been no need for Dr. Conolly's exposure of it in your last number, since that would have been anticipated by its meeting with a full measure of justice in the Report. I have Sir J. M'Grigor's communication lying before me; but as it does not touch upon the point in question, we need not be suspected of suppressing unfavourable testimony. Of course the Section could know nothing of the returns alluded to by Dr. Gregory, since their business was only with documenrs actually existing. When they appear they will doubtless be allowed their full weight: in the meanwhile each must attach as much importance to the partial account of them as he thinks fit. For my own part I choose to defer the consideration of the tables, and the four great statistical principles, until the returns are published, as I shall then have an opportunity of laying them alongside the authentic documents, as I have done sundry singular misquotations with the genuine text. I could not otherwise be sure that some essential errors had not crept in, as they unfortunately did in the Report from the Small-Pox Hospital, which would effectually vitiate the whole conclusion.

The importance of distinguishing between having the cow-pox and being vaccinated, proves the value of the canon laid down in the Report; the meaning of which is sufficiently clear, and does not need to be encumbered by any additional clause, as suggested by Dr. Gregory; who surely cannot seriously wish such a canon to be rigidly applied to all cases of secondary small-pox, unless he believes that small-pox scars and the vaccine cicatrix are equally fallible indices.

Dr. Baron's Life of Jenner (p. 278) comes in for a share of Dr. Gregory's peculiar treatment: a phrase is forced to the extreme limit of its possible construction, and then, by wriggling on with little stronger expressions from position to position, a conclusion is at last arrived at, which might lead an unwary reader to think the sentence militated against the Report. A fair examination of the passage would completely destroy the effect of this sophistry. Let the Report also be dealt fairly with; let each one who cares about the matter examine it for himself, without partiality or prejudice. It was an ingenious piece of policy, on the part of the assailants, to attempt *in limine* to throw discredit on the work, and prevent its being read, since it so quietly subverted many of their unsound but long-cherished dogmas. Their efforts have, however, signally failed, and the bitterness and disingenuousness of the attacks will have the effect of drawing attention to the Report; and good will thus accrue to the cause of vaccination from the most untoward and unlikely sources

I am, sir,
Your obedient servant,
HENRY COLES.

Cheltenham, Nov. 25, 1839.

P.S. Dec. 2.—I had written the above letter above a week ago, but deferred sending it, lest it might cause the attacks and replies to continue to be inserted out of order. I have seen the letters in your last number, but they contain nothing which would make me wish to suppress or alter mine. I have just met with Dr. Conolly, who agrees with me that Dr. Gregory would have made a much better return for that which he professes to feel grateful for, by substituting straightforward animadversions for uncandid strictures, instead of taking leave of the subject on the plea of a courtesy, which looks very suspicious, and with an affectation of forbearance which is wholly uncalled for; since the subject might be discussed without the

writer being assailed, and forcible arguments might be adduced without ungenerous artifices being resorted to. We cannot find in his letter any thing like an explanation of the blunders in the Small-Pox Hospital Reports. It would have been stretching our courtesy too far, to have allowed them to pass muster with us. We can readily believe, and are sorry for it, that they would go down with continental writers, who had not the materials for detecting their inaccuracy; but if Dr. Gregory can really feel flattered by their quoting his errors, we do think Dr. Baron shewed a needless solicitude about wounding his feelings in exposing them. We admit that there is no inconsistency in giving a general assent to the Report, and dissenting from several of the details; but we are still at a loss to account for or reconcile the strain of eulogy with that spirit and mode of depreciation which I have been compelled to animadvert on so often that reiteration must be getting irksome. We congratulate Dr. Gregory on his determination to imitate Scrutator by writing anonymously. We commend his prudence, we think he has fallen on his appropriate vocation, and wish him better success in preserving his incognito than Scrutator enjoys.

The booksellers here do not distribute your periodical until Monday; and a letter, if its early insertion is hoped for, ought, I suppose, to be sent off by the same day's post, especially if it be long and not expected. The time, therefore, will not permit me to touch upon Scrutator's letter now; but if you will allow a little space to notice it, (and particularly the alleged mistakes) in your next number, you will greatly oblige me. H. C.

MEDICAL GAZETTE.

Friday, December 6, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

MEDICAL ETIQUETTE.

MR. BANKS, upon whose treatise we ventured to comment in our last article, has an especial chapter dedicated to the affectation of mystery, which he holds in great abhorrence. It must be confessed, that with the progress of civilization, the professors of every art, from physic downwards, become more communicative. Like the schoolboy who when asked a question, cries out, by way of answer, "That's tellings!" the adept of the middle ages would have given you to understand that the secret which you so rashly wished to share was to him both bread and fame; while the modern student is well aware that the practice of an art does not consist in the dry knowledge of a few isolated facts, but in the exquisite tact with which numerous truths are combined, and brought to bear on a given problem. Such knowledge, if not absolutely incommunicable, is too delicate to be easily imparted; and though it is not impossible to draw a sketch of the practice of physic, yet it cannot be done, like a Silhouette portrait, at a single sitting. Hence, as time rolls on, mysteries diminish, and the more cultivated professors of every art clearly see that they are not in danger of being reduced to the level of the multitude, or even of raising the unskilful to their own, by giving plain answers to plain questions. To be perfectly impartial, however, it must be allowed that the question asked is often not so plain as the querist supposes, and he is startled, in consequence, at what he imagines to be the learned prolixity of the answer. He has said, "Open, Sesame!" to the gate of knowledge, and is rather astounded than pleased by the accumulated treasure within. Swift says, in his biting way, that a farmer will tell you in two words that he has broken his leg, while a surgeon, after half an hour's discourse, shall leave you to seek. Now, after allowing something for the old, formal, and scholastic style in fashion 150 years

ago, we must attribute still more to the surgeon's wish to define the precise nature of the fracture. The former knows that he has got a bone in his leg, but does not know that he has got two; while Swift's surgeon, expatiating over the ample field of fractures, simple and compound, of tibia, fibula, or both, forgets that he is casting his pearls before swine.

This reproof of the Dean of St. Patrick's is a proper introduction to Mr. Banks's first point in the chapter on the affectation of mystery, as he begins by reproving medical practitioners for using technical terms in the presence of their patients. He has "heard physicians use such words as 'secundùm artem, ad deliquium, toastùm boastum,' &c. &c. when talking to a general practitioner before others: such can only impose upon the ignorant, and cannot fail to lower a man in his own estimation." Now, whether "toastùm boastum" belongs to some burletta at the Surrey Theatre, or is a drop from Mr. Banks's own peculiar vein of pleasantry, we have nothing to say in its favour; and very little in defence of "secundùm artem;" but "ad deliquium" stands upon a different footing. It belongs to the class of euphemisms by which we endeavour to throw a veil, however transparent, over an unpleasant idea; and as the ancients said *obiit*, and not *mortuus est*, so the moderns often prefer "I bled her *ad deliquium*" to "I bled her till she fainted:" In other cases, the technical term is justified by its brevity. It sounds better to say "we found a scirrhus in the duodenum" than "we found a hardness like white India rubber in that part of the small guts which joins on to the stomach." If the physician, when addressing the general practitioner, intends the laymen present to understand his discourse, it will become necessary to melt down half the terms of anatomy and physic into definitions.

But a more comprehensive question suggests itself to us—"Would it not be better, ninety-nine times out of a hundred, to refrain from medical discussions in the presence of the laity?" When the rare occasion arrives, the bystanders will forgive the doctor who has no extempore translation for *duodenum*, or *vena portæ*, or *torcular Herophili;* but in the other ninety-nine instances, the fault is not so much in using technical terms, as in persisting in a conversation which renders technical terms necessary. Mr. Banks was once so unfortunate as to dine at the same table with a lawyer, "who, amongst many other professional terms, said, "nothing was so mean as a *tu quoque;*'" and he thinks that "if this gentleman could have seen how ridiculous he appeared, his countenance would doubtless have betrayed some embarrassment of the internal man." This *tu quoque* would seem to have been the last drop that made a whole cup of law-Latin run over, otherwise there is nothing so intolerable about it. Indeed, we should not have suspected it to be a technical term, but should have classed it among those harmless phrases likely to be understood by all the braccate portion of the company, though coming under the general prohibition of "no Latin before ladies." Our readers will note, however, that though in one point we are more tolerant than our surgical Mentor, and have a less intense horror of two words of Latin, yet, on the other hand, we disapprove of the too prevailing custom of forming a little professional knot in the middle of a mixed party, and turning it into a medical debating society. Our younger readers will do well to avoid this practice, as well as the one of giving a medical lecture, with or without the excuse of a question asked. Such professional

wordiness will be unfavourably interpreted (though perhaps sometimes ununjustly); it will be thought either that the offender is deficient in the ordinary knowledge of an educated man, or that he has resolved to make all his visits so many advertisements.

A kindred subject to the use of technical terms in conversation, is the question in what language prescriptions should be written; but this topic has been strangely banished from the chapter to which it belongs, and transported to one on minor points, "about which there seems to be no general understanding, and, it is to be hoped, there never will, as they are quite unworthy of notice." The question, as stated by Mr. Banks, is, "whether prescriptions should be written in English, Latin, Greek, or double Dutch?" Now a prescription in single Dutch, the language of Amsterdam and Leyden, would sorely perplex most of the druggists we have come across; but what they would say to one written in double Dutch, a language the very quintessence of unintelligibility, and spoken probably in Laputa alone, we hardly venture to guess. Nevertheless, we think it probable that a few prescriptions written in this tongue, and in Greek, would drive our pharmaceutists to despair; and we therefore esteem it fortunate that practitioners in these islands *have* come to a general understanding, and always prescribe either in Latin or English. We suppose, however, that the real doubt which Mr. Banks means to hint at under his veil of humour, is, whether it is better to use Latin or English on these occasions. Now far from thinking this point one unworthy of notice, we deem it well deserving of discussion, and are of opinion, moreover, that it would have been perfectly germane to a treatise professedly on medical etiquette. The practitioner may have remarked, that both in France and Scotland the Pharmacopœia is in the language of the country (indeed, in France, physicians were enjoined by Napoleon to prescribe in French, with the intention of diminishing the probability of mistakes); and he may naturally ask, whether it would be permitted him to order medicine in England in his native tongue. He would not be a little surprised to learn, that although Mr. Banks finds room to denounce electors who vote against their conscience, and appeals to the medical profession to take under their care "the glimmering embers of morality," which are not likely, it seems, to be fostered either by the church, the law, or "the Educator," yet he has nothing to say on this delicate difficulty. If we were allowed to give an opinion upon what ought to be, we should say that the safest plan for the practitioner would be to continue to write the mass of his prescriptions in Latin, according to the existing etiquette.

Another affectation of mystery censured by Mr. Banks, is the practice of disguising medicines, as, for instance, mixing rose pink with linseed meal, or vermilion with Epsom salts. This is half mystery, half trick, and we agree with him in condemning it. The only modification of this plan of adding any thing to change the colour at all admissible, is the one which which was some time ago suggested, of having oxalic acid always tinged of a particular hue, to distinguish it from sulphate of magnesia.

The other practices censured in the same chapter are simple tricks, and do not come under the head of affectation of mystery. Among these are the being called out of church, and "riding hard by when people are coming out, his horse

foaming and sweating—poor animal! all in the cause of falsehood." As to the trick of being called away from church, dinner, or the play, it is one of those which have become so stale, as to be a matter of trite observation among the laity; so that, at present, a genuine calling out has more chance of passing for a false one than *vice versâ*. Mr. Banks, indeed, goes so far as to reckon the being called out from church and other public places, together with the galloping, as nearly obsolete; perhaps, therefore, in due time they may be revived by the skilful; there is nothing so new, say the French, as what is forgotten. Some, again, if they should happen to get a Lord upon their books, make his name more common in their conversation than the definite article. Another man could not open his mouth without revealing the fact that he kept "a horse and chaise." A bet being accordingly built upon this weakness, he was asked what o'clock it was; and he answered, as by habit bound, "When I passed the Horse Guards this morning in my horse and chay, it wanted," &c.

Some practitioners, says the accusing Banks, send medicines to the wrong houses, by a wilful mistake, as each explanation is an advertisement. We never heard of this before, excepting in the Pickwick Papers, where Sawyer, late Knockemoff, tricks the public after this fashion; yet we suppose all that is *do-able* is done. Mr. Banks disapproves of the fashion of appending letters to men's names as a sign of their possessing some unimportant office. We recollect that Mr. Babbage, in his work on the decline of science in England, gave a list of the most dignified capitals which commonly follow authors' names, with the prices paid for each; "those," he added, "who are ambitious of scientific distinction, may, according to their fancy, render their name a kind of comet, carrying with it a tail of forty letters, at the average cost of £10.9s. 9¼d. per letter." The particular combinations mentioned by Mr. Banks, G.U.L. or F.O.P., must be much cheaper.

The next points censured (and always under the head of affectation of mystery) are the keeping patients waiting longer than is necessary; the claptrap of writing up *advice gratis*; and the custom which some physicians have of sending all their prescriptions to a given shop, where they have a share of the profits. This share, too, is under the rose; if it were openly avowed Mr. Banks would not censure the custom.

He finishes his chapter by stigmatizing the servile suppression of our own sentiments, and the abstaining from all opinion on public subjects; and brands those who do not go to the poll at an election, as guilty of a flagrant dereliction of duty, and those who vote against their convictions as monsters of iniquity, with many more hard words. Now, we should be the last persons to defend shufflers, skulkers, or vote-sellers; but we somewhat doubt whether this work was the place for their castigation. It is like erecting a pillory in a flower-garden.

THE PROPOSED "SANATORIUM."

We perceive from reports in some of the papers that Dr. Southwood Smith, Dr. Arnott, and some other gentlemen, have it in contemplation to establish, under the name of "Sanatorium," an institution similar to some of those in Paris, where patients are provided with board and medical treatment on the payment of a certain sum per week. In France such institutions have answered very well, but there are various circumstances which, we suspect, will

prevent their success here. In the first place, the plan is contrary to the genius of the inhabitants of this country; none who can contrive, by any means, to remain at home, will voluntarily change their residence, or consent to be surrounded by strangers, in the hours of sickness, if they can manage even at some sacrifice to have attendance in the bosom of their own family. Again, the experiment has already been tried in London, we believe, very fairly, and has failed. An institution, on what we understand to be the principle of the Sanatorium, was established at Lisson Grove, under very active and influential patronage;—Mr. Holland, of Montagu Square, Sir William Pepys, and other philanthropic individuals, having, although unavailingly, devoted a great deal of time and pains to insure its success. The plan was to have accommodation for from 30 to 40 patients, who were provided with good board, lodging, and medical attendance—the women for 12s. and the men for 14s. a week, the rest of the required income being made up by annual and other subscriptions. The institution, however, was strongly opposed by the general practitioners, and progressively drooped, so that it was necessary to raise the terms to 14s. a week for females, and 17s. 6d. for men. Even with this increase, however, we understand that the proceeds never nearly equalled the expenditure, and, at the end of some years, it was found necessary to break up the establishment altogether.

We doubt much whether any institution of the kind will ever succeed here. As we have already observed, it is not well suited to the habits of the people, which are essentially domestic; while the circumstance of their paying at all, makes patients very exacting, and difficult to please. Besides, though one or two such establishments might be little felt in a metropolis like London, yet the principle is certainly inimical to the interests of the general practitioner, and hence gentlemen in this branch of the profession will naturally view it with dislike, and, with their opposition, it is not possible for institutions of this nature to succeed.

We anticipate, as most probable, that the parties who have set about the Sanatorium will abandon the scheme before it has been brought into actual operation; or, if established—like the similar attempt at Lisson Grove—it will linger for a short time, and then be discontinued for want alike of patients and of friends.

THOUGHTS ON THE NEW UNIVERSITY AND THE COLLEGE OF SURGEONS.

To the Editor of the Medical Gazette.

Sir,

The following strictures originated in the wish of a friend, that I should communicate to him, by letter, my opinions on the present extraordinary position in which the College is placed. As I have stated the circumstances that seem to me to explain the relative position in which the University and the College stand towards each other, I thought they might, with advantage, find a place in your journal; and if you think so, I shall be obliged by your inserting them.—I am, sir,

Your obedient servant,

C. Aston Key.

Nov. 30, 1839.

Dear ——, you have often asked me whether I consider the College of Surgeons, and our other medical institutions, to be so perfect, and their present position so satisfactory, as to need no improvement, and what my opinion is of the Medical Association. To the latter part of your question I can at once reply; that the proceedings of the Association bespeak so much political partizanship, and so much questionable

feeling, that though I approve many of its objects, I do not incline to enlist in their corps. The second part of the question, touching the condition and prospects of the Royal College, shall have an equally distinct, but more explicit answer; and you must bear with me, while I endeavour, briefly as I may, to point your attention to the circumstances by which the College, as well as the other authorities of the profession, are placed in their present anomalous attitude. You will remember that these strictures come from the hands of a friend to the College, who can have no motive in making them but a sincere desire to see its dignity upheld by the united voice of the profession.

It matters but little to the question how far a University in London was, or was not, a desideratum; it is enough for us to know that it has been founded, and it will sufficiently answer my purpose to advert to the circumstances that attended its formation.

We must go back as far as the year 1826, or thereabouts, when the project of establishing a University in London was first talked of, to include among other sciences that of medicine. It seemed reasonable as well as expedient that this metropolis, possessing as it does the means, should be invested with the power of conferring academic honours and degrees in medicine and surgery, and thus be placed on a footing with the other capitals of Europe. The material for a University seemed already to exist in the large medical and surgical schools of London; and the project of forming a University appeared to afford a good opportunity of uniting the schools of anatomy, and placing them on a University basis; I endeavoured to draw the attention of some influential members of the profession to the subject. With this view I drew up a sketch of what seemed to be a feasible plan for effecting this object, and forwarded it to two leading members of the College of Surgeons, whom I knew to have at heart the welfare of the profession, and to possess the judgment to decide what was best for its interests.

What difficulties existed at that time, in the way of uniting the schools and the College with the contemplated University, I cannot say; no attempt, that I am aware of, was made to effect so desirable an object. The College remained supinely waiting for events, instead of anticipating and directing them; and the opportunity thus let slip was quickly seized by other and more active hands. Possibly the original projectors of the University might have been averse to any connexion with the existing institutions; an objection which the constitution of the College renders highly probable.

At first they attempted to obtain for the University College, as it is now called, a charter with the power of granting degrees, and thus to constitute this small section a University. This attempt to invest a school with the powers of a university failing, as it well might, a powerful influence, strengthened by the result of the parliamentary medical investigation, was exerted with the minister of the crown; and with his aid, in the teeth of the Royal Colleges of Physicians and Surgeons, and the Company of Apothecaries, an institution has been founded that threatens to surpass these bodies both in powers and in importance.

Small as the beginning of the new University is, it needs no great foresight to see that it contains the germ of future greatness, and if properly cultivated, its stature will be commensurate with the acknowledged wants of a large body of the profession. One fountain of honours, that is, a University, does seem to be wanted; something beyond a diploma or a license to practise is looked for by a large body of practitioners; and that something it is not in the power of the existing authorities to grant, unless they undergo some modifying changes, and meet the wants of a large and respectable part of the profession.

The new University, so far as a degree is concerned, does supply this want, imperfectly it may be said; and also places London on a nearer footing with other capitals. The circumstances that attended its formation are not calculated to place it very high in the estimation of the profession, nor to render it at present a very formidable rival in the eyes of the Council of the College of Surgeons. Its birth may be considered suspicious, springing as it does from a spurious source, the spirit of party. Professors there are none; and the Senate, with its Board of Examiners,

number amongst its ranks but few of the *élite* of the profession; nor does the mode of election seem to accord with that purity of which so much is spoken; the minister, it is said, with the aid of parliamentary advisers, has made the chief part of the senate nominations, and the selection of examiners from the senate has not met with the cordial approbation of several of its members. To all these objections, however, it may be reasonably answered, that the University is in its infant state; that an elective body is not yet in existence, and that the chancellor or minister was obliged to get together the best senate he could, under the circumstances that ushered the University into being. Its position, too, prevented a selection of anatomists and surgeons being made from the Council of the College, or from the leading teachers of the schools; and the inexperience of the examiners has hitherto prevented the examinations from being quite as satisfactory as could be wished.

Many more objections might be urged, and many disadvantages stated, under which the University must be allowed at present to labour. The infant University, however, still possesses so much promise of future vigour as to well deserve the attention, if not to excite the apprehension, of every well-wisher to the College. Its strength is in the hold which, under good management and judicious government, it cannot fail hereafter to acquire over the mass of the profession. Supposing, and any other supposition would be idle, that the election to the senate should be hereafter thrown open to all its members, and that every member when admitted may entertain the hope of being called, at some future day, to fill the respectable post of a member of the senate and board of examiners; such a law would at once attract the larger part of the professional talent of the country; candidates of a high grade would become competitors for the distinctions which the University has to offer, and in a short time the University would become the popular institution of the country. Some such measure will assuredly be adopted by the University, and then every objection that can be made to the present constitution of its senate and examiners will be overcome by the encouragement held out to the professional talent of the country, and the banishment of that system of exclusion that prevails in the other governing bodies of the profession. An elective body of talent and influence will gradually be accumulated, and a proportionate weight and importance will be imparted to the whole body of the University.

Admitting, however, that the want of first-rate professional talents and character in the examining body should fail to render the degree an object of ambition to the profession—a circumstance that in its infancy is not improbable—or that any other cause should tend to retard its growth; its very weakness may operate to its advantage. Its chancellor has only to appeal to the government that founded it, to picture its unprosperous condition, and to request more privileges and more power; and to such an appeal it is not to be supposed that the minister will turn a deaf ear. He is in some degree pledged to its success, and will do all that he reasonably can to ensure it. If the University, seeing that its degrees are not valued, ask to be placed on an equality with the Apothecaries' Hall, and to have the privilege of granting along with its degree a diploma or license to practise medicine in all its branches, is it probable that such power will be denied to them? They will plead that the medical examiners of the University are persons in every respect as fit to be entrusted with the general medical education of the country as the examiners of the Apothecaries' Company; and who can deny the justice and truth of the plea? Equal powers will assuredly be granted to them, and when once the license of the Hall is supplanted by the University, the College, not possessing the power to compel an examination, will find, that the student will prefer one examination and one fee, and that its diploma will have but few candidates. If the College continue to rest its claim to the support of the profession on its present grounds, a few years only will suffice to work this change.

The Council of the College may possibly regard such apprehension as chimerical. Those in power are often blind to danger that others see approaching. I do not, however, believe that the leading members of this body can view the University with unconcern,

or that they are insensible to their present position. They may possibly regard the infant University as insignificant, when compared with their own body, in point of resources and present importance. The history, however, of every institution of magnitude in this country, with few exceptions, will tell how small a beginning they have had. A seed sown in a fertile soil is sure to be well nurtured, and to flourish. If an association in this liberal and wealthy country be judiciously commenced, meeting the wants of, and finding favour with, the public, funds flow in to its support, time brings friends, talent comes to its aid, and what at first was a small institution becomes in time a largely endowed establishment. This is the history of all our charitable and scientific bodies, and the new University is not likely to be an exception to i . It brings to its support the powerful aid of government; it does not depend wholly on, though it needs, the countenance of the public; it supplies, in some measure, a want that has been long felt. It appeals strongly to a large discontented body in the profession, who will not withhold their support, and has to compete with institutions from circumstances, not want of talent, enjoying but a small share of popularity. Its ultimate success may be reasonably expected, though its present unassuming position may excite no feeling of apprehension or jealousy.

Not the least striking circumstance attending the formation of the University is the entire silence of the profession, and its quiet acquiescence in the indirect encroachment on the privileges of the College. Scarcely a voice has been raised against the powers granted to a body in which the leading surgeons of the country are not included, and in which the College of Surgeons takes no part. The indignity, if such it can be considered, offered to the College, is not resented by its members; as if the College and its members had no common bond of attachment. This anomaly is only to be explained by the peculiar constitution of the College, and the equally peculiar position of its members.

The council and examiners, it must be admitted by all, contain some of the most respected names in the profession; and if one or two members of lower pretension have been occasionally admitted among them, they form the exception to the rule. Their examinations have been conducted with due regard to the education of its members, and with leniency to the candidate. The Museum has been nobly preserved, arranged, and enriched, at the expense of the College. Lectures have been instituted; and its legislative measures have been, with few exceptions, such as tend to uphold its character as a scientific body. Through ill and good report they have endeavoured to discharge their duty, according to their charter and their laws: and yet, can it be said that the College is popular with the profession? The members, it is true, seek to obtain its diploma, because without it some public appointments cannot be held; and, till lately, no other chartered body has had the power of conducting surgical examination. The degree of popularity that it does enjoy is owing to the individual weight of one or two examiners, and not to the whole as a body. Is it popular with the country? The answer is, that a petition to parliament for such powers as had been granted to the Apothecaries' Company was made, and refused; and the profession saw in silence the failure of the application. On occasions when the proceedings of the College have been assailed without regard to truth, and misrepresented and distorted to serve party purposes, not a voice has been raised in its defence. The Royal College of Surgeons is sometimes pledged as a toast at a public dinner, but more as a matter of form than of feeling; and then something cold is said by way of compliment, and something as cold replied by a member of council, as the expression of thanks for the honour conferred; its prosperity excites in its members no feeling of pride, as its degradation would none of sympathy.

Why is the College, with its talent, respectability, and great resources, regarded by the profession with so cold, so jealous an eye? It is, because the members have no community of feeling with the College. The student, when he becomes a member on receiving his diploma, and leaves the door of the building, feels that he has no closer connexion with it than before his name was enrolled. He asks himself, and asks in vain, what advantage he derives from the fee that he has paid, and from

the severe self-imposed examination that he has undergone. His hopes and fears, once centred in the College, end with his examination. In truth, he can hardly be said to have any connection with the College. If he chance to live in London, he may hear, if he please, an occasional lecture, and may have access to the library—advantages that his former school of medicine still continue to afford him. It is no *Alma Mater* to him. He may long for its honours, but they are beyond his grasp; he feels that no industry, no exertion of talent, can place them within his reach. As he advances in life, he sees his former fellow-student, possessing half his industry, talent, and knowledge, called to the council of the College, from which he is excluded, and raised to the rank of examiner, which he never can attain. He has no voice in the election of the council, much less in its measures; he feels himself a cypher, if not an alien, and that he is so regarded by the College. Surely there is nothing in this system to attract, but every thing to alienate from the College, the affection of its members.

The faulty system which the new University has adopted in the choice of its senate and examiners, the College continues to practise. The University has the excuse of possessing yet no academic body, from which the election can emanate: the College has no such excuse; its body is large and well educated; and the only palliation for their proceeding is long established custom. By what rule a member is elected to the council, I do not exactly know. To be a London surgeon, and not to be a general practitioner, seem to be two of the necessary qualifications. He need not be a surgeon to an hospital, for persons are selected who are known only as private practitioners. He need not be a surgeon of high professional reputation, for some are of the council whose scientific attainments will not bear a close scrutiny. There is a conventional rule, I conclude, not well defined, but sufficiently understood, to guide the election of the members of the council. Thus entrenched, the governing body of the College knows that it is not popular, and endeavours to atone by legislation for the defects of its system. The exclusiveness that prevails mars their best intentions, leading to all kinds of evils, both to their own body and to the profession; among others, to measures of doubtful policy in order to conciliate popular feeling. The two last alterations in the laws of education will illustrate what I mean. One is, the abolition of apprenticeships, and the limitation of the period of study to four years. Those who brought forward such a law must surely have forgotten how much, or rather how little, they themselves knew at the end of four years; that the increased severity of their examination requires rather a prolonged than a curtailed period of study: they might also bear in mind that it takes as much time to make a good surgeon as it does to make a good carpenter. But for this error there is an excuse, as it would seem to be only a show of liberality; for the law is wholly inoperative, while the Hall retains its period of apprenticeship. The other is, the committing education wholly to provincial schools. It cannot be said that either of these measures is calculated to raise the standard of education; but they are both popular, and so far answer their purpose. One is probably intended to conciliate the good will of students; the other, that of provincial surgeons; and the end is thought to be gained. The policy is short-sighted. The council cannot suppose that the obvious inference from their own law is overlooked by provincial surgeons; namely, that if their schools are qualified to conduct the whole of education, and to be placed on an equality with the London schools, the leading provincial surgeons ought to be placed on a footing with the London surgeons in respect to eligibility to the council: and why should they not? Besides, all these small acts of legislation, as expediency may drive, cannot have a lasting good effect: they have the semblance of liberality, but not the substance. The surgeon and the student still remember that they are excluded from the honours of the College, and, forgetting the boon, think only of what is withheld from them.

To meet the coming difficulty, the College has three modes of proceeding, and it will be seen by the measure they adopt what their view of their present position is.

They may apply at once to parliament to strengthen their powers, and to make

the examination, which at present is voluntary on the part of the student, compulsory. If this power be granted, the College may think themselves secure from all encroachment on the part of the new University. And so they will be, if the privileges of the latter body remain as they now are; but if these also are enlarged, and if their reputation increase with the increase of their academic body, the student will prefer the one fee, the license and degree of the University, to the double examination and the double fee of the College and Hall. It remains, however, to be seen whether parliament will grant to the College, with its present unpopular constitution, an extension of its privileges.

Another line of policy is, to wait the tide of events, and the demolition of the frail fabric of the University. Temporizing policy may induce the College to look for a change of ministry, in the hope of seeing the University crumble away with the powers that created it. The wisdom of such proceeding, however, may be doubted.

A third course, by which alone its strength can be permanently increased, is to rest its claim for support on the attachment and esteem of its own members. This can only be done by allowing to each member a vote in election of the members of council. Such a measure would make the College what it has not yet been—a representation of the whole body of surgeons, instead of being, as it now is, a small self-elected section, taking into its own hands the management of its internal concerns, and the legislation for the whole of the profession. The council and the members would form one powerful body, acting in unison, for the common good; the feelings of the members, now diverted from the College, would be concentrated towards it. They would join in measures for its advancement, and in defending it against attacks, which, if made, would then be few and feeble, honourable ambition would be encouraged; and those who work for the profession would replace those who do nothing for science. The libeller would be silenced, and the discontented would be satisfied. Thus strengthened, the College might apply with confidence to parliament for any reasonable extension of powers. The council would then embody the surgical talent of the country in a most popular form, and would have little to fear from the success of the University. In what position it would stand in relation to the University it is not difficult to see, as the best surgeons and anatomists would be anxious to belong to the council elected by the common voice of the profession.

It is not easy to understand by what arguments, or on what grounds, the College can refuse this boon to its members, if the petition were properly preferred; nor how it can retreat from its own admission, that the provincial schools are fully qualified to conduct surgical education, or from the obvious inference, that they are also as well qualified as the London surgeons for the less important duties of the council. The great difference in point of education and acquirement that formerly existed between the members of the council and the provincial surgeon, is allowed by the College itself no longer to exist. Even in past times a Park of Liverpool, a Hey of Leeds, a White of Manchester, and a Dalrymple of Norwich, would not have disgraced the council of the College; and many provincial surgeons might be named who would grace the council board to the full as much as many who now sit there. The privilege of voting is also due to the members, who are supposed to be well-educated and well-conducted men. I say supposed, for if they are not really so the fault lies with the council, who direct education, and with the examiners, who test its fruits. It is a part of the duty of a governing body like the College, so to legislate that a sound moral as well as professional education should have been given to the candidates for its diploma; and so far it is bound to render its members qualified both to judge properly of professional reputation and acquirement, and to exercise a sound discretion in the choice of the members of council. An intercourse of some years with members of the profession persuades me that they are so qualified, and that the honour of the College and of the profession may be safely entrusted to them.

Objections that will be urged against such a measure are such as are made against popular elections in general. An election of members of Council by a learned body cannot be termed popular in

the objectionable sense of the term. A popular election is defective from the passions or interests of the electors giving them an improper bias, or from ignorance of the qualification necessary for a member of Council. The interest and feelings of the member would be identified with the College, and no improper motive would be likely to interfere with a sound exercise of their privilege.

It might also be objected, that the editor of a certain journal, who has always shewn himself hostile in the extreme to the College, would be elected, would subvert all rule and order, and sacrifice the interests of the College at the shrine of popularity. No one person if elected could do so much mischief as this; nor indeed is it likely that he would be chosen by the profession. Nor if elected is it probable that he would accept an office for which his pursuits of late years have not qualified him. Whatever his original fund of professional knowledge may have been, subsequent experience and practice have not added much to it; and possibly it may have undergone no inconsiderable diminution, even to a certain algebraic sign, that ill qualifies a man for an examiner in anatomy and surgery. His known utilitarian principles would at once prompt him to decline the honour, and to release the Council from the terror of his presence. In order effectually to prevent any really objectionable member being elected, the College might retain a *veto*, that would act as a check on the electors, even though it should not require to be exercised.

It may be said, that the leading members of the profession would not submit to the annoyance of a canvass and a popular election, and would not come forward as candidates; while men of doubtful pretension, by force of intrigue and noise, might be preferred. It might be so ordered that the names of candidates should be laid before the profession for the period subsequent to the last election, in order to give time for the relative qualification of each to be ascertained. I am far from intending to lower the standard of qualification for a member of Council; on the contrary, my wish is to raise it; nor am I at all desirous of depreciating the character of the hospital surgeon, as I cannot be insensible to the opportunities that surgeons long connected with hospitals possess of cultivating the science and practical part of the profession, and of qualifying themselves in a superior manner for the discharge of the duties of an examiner. If surgeons of hospitals do their duty towards the profession, by improving its science and raising its character, the profession in return will not fail to elect them, as the fittest persons, to the Council of the College. But this fitness, I say, let the members determine.

Other advantages, to be expected from such a change, are not few nor unimportant. The present want of exhibitions will probably be supplied; a motive for enriching the funds of the College, for such an excellent purpose, will then exist, and generous individuals will be prevailed upon so to apply their redundant means. It is probable that it will also have a good effect on the literature as well as the tone of the profession. Crude works, hasty opinions, ill digested theories, and imperfectly tested modes of practice, will more rarely issue from the press, as they will fail to produce that lasting good impression, which will then become more the object of active and intelligent surgeons.

A change of measures in any society usually inflicts injury on some; and a change in the mode of election of the Council will not be without its consequences to those who, like myself, look forward, in the present course of events, to become members of that body. The Council itself will not suffer by the change, and the members generally will benefit by it. The expectants, under the present system of election, will be the only sufferers. I cannot presume to say what their feelings may be, or how far they may coincide with the view I have taken of the matter; I have no right to prejudge nor to attempt to influence their opinions. They are at least as well qualified as I am to judge of the matters here discussed.

In the view that I have taken of the matter, I am only following in the wake of the College. Some measures evincing a desire of conciliating popular feeling have lately been passed; and, as a well-wisher to the College, I am only carrying out their own principle, in shewing the consequences to which it inevitably leads. Their late enactments are possibly the shadows of coming events; either they are the forerunners

of a more substantial grant to the profession, or the College is blind to the consequences of its own legislation.

I find that my remarks have reached a greater length than I at first expected. The subject is too important a one to be fully treated in a letter. I shall, however, send this sketch, imperfect as it is, to the MEDICAL GAZETTE, with a request to insert it in the forthcoming number.

Ever yours sincerely,

C. ASTON KEY.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Nov. 12, 1839.

SIR B. C. BRODIE, Bart. President, in the Chair.

THIS being the first meeting for the season, it was very fully attended. We subjoin abstracts of the papers read.

Case of Strangulated Hernia, in which the Bowel was ruptured by the Patient, in his efforts to reduce it. By BENJAMIN TRAVERS, F.R.S. Senior Surgeon to St. Thomas's Hospital.

The patient in this case was a strong and active young man, 20 years of age, and had been from his birth the subject of congenital hernia. Having always been able to reduce the swelling by lying down and gently pressing it with his hands, he had concealed the existence of this infirmity altogether from his family. On the occasion here described, however, he had not been so fortunate; the hernia had descended in the afternon of the day preceding that on which he was seen by Mr. Travers, who thus describes the course of events: "Upon inquiry I learned, that at six o'clock of the preceding evening, the volume of the tumor became so increased as to oppose a resistance to its return, which the young man could not overcome. In addition to continued violent manipulations, he compressed it forcibly between his hands and thighs, and, as if reckless from ill success, actually made a section of the integuments with a razor transversely to the cord." The author first saw him at three o'clock on the following morning, when he was pulseless, with livid lips, and other signs of approaching dissolution. The scrotum was enormously distended and of a sanguineous hue. Having given the patient some warm brandy and water, Mr. Travers proceeded to operate, when on opening the sac and handling the parts, the protruded bowel slipped into the belly without its being necessary to enlarge the ring. The patient lived three hours after the operation, when it was found, on examination, that a portion of the lower third of the ilium, equal to a hand's-breath in extent, presented the appearances of recent strangulation, accompanied with laceration and extravasation of blood between the peritoneal and muscular coats. The mesentery was stripped from the intestine to the extent of an inch, and an irregular aperture was formed in the bowel to the same extent.

Case of Uterine Hæmorrhage, in which the blood escaped through the Fallopian Tubes. By W.F. BARLOW, Esq. (Communicated by Dr. M. HALL.)

A young woman, twenty-two years of age, who had miscarried at the sixth month, with much flooding, had an attack of purpura hæmorrhagica, from which she died five days after abortion had taken place. On dissection, a quantity of blood was found to have been effused into the abdomen and pelvis, some of which was coagulated; and, as clots were found projecting from the fimbriated extremities of the fallopian tubes, from which, as the author considers, it was evident they had been expelled, he infers that uterine hæmorrhage had taken place through these tubes into the abdomen. A preparation of one of the tubes, having a lobulated coagulum projecting from it, was shown to the meeting, together with a drawing from it when recent. The uterus was less than the size it generally assumes a week after delivery, and a coagulum of blood partly occupied the neck of the organ.

Nov. 26, 1839.

Dr. Burne's Three Cases of Gastritis.

In consequence of suggestions for employing the arsenious acid in substance in the form of a pill, rather than the arsenical solution, in menorrhagia and other uterine disorders, contained in a paper read in 1838 before the Royal Medico Chirurgical Society, Dr. Burne administered it in pills, containing each the 20th part of a grain, to a young lady, under menorrhagia, without any unpleasant effects. In a second case, a young woman, who had suffered from amenorrhœa for nine months previously, took a similar and equal dose on Thursday, two doses on Friday, and one on Saturday. On the evening of Saturday symptoms of inflammation in the stomach came on, which, after some subsidence, recurred twice; on one occasion

with delirium, palsied shaking of the head, swimming of the eyes, and such debility and exhaustion as to place life in imminent danger—"a result so disastrous," says Dr. Burne, "that I thought the details might be useful as a caution to others who may be disposed to administer arsenions acid in substance. For myself, I shall hereafter abstain from prescribing it in this form."

The next case was one of spontaneous and idiopathic muco-gastritis, fatal in fourteen days, probably preceded by chronic disease of the muciparous glands of the stomach, of which a considerable portion exhibited them of unusual size and appearance.

The last case, also spontaneous and idiopathic, was one in which Dr. Burne considers the symptoms to have shown that the inflammation was seated in the submucous, muscular, and subserous tissues of the stomach, and which he compares and contrasts with the symptoms of the case immediately preceding.

Observations on the Corpuscles of the Blood and Pus in certain Animals. By GEORGE GULLIVER, F.R.S. &c. (Communicated by JOHN G. PERRY, Esq.)

The author, remarking that at an early period of his inquiries he entertained, in common with many other pathologists, the hypothesis of the transformation of the blood corpuscles into those of pus, relates summarily the result of many experiments which he has made on them in various animals; from which it results that the former are very variable in size, and that the latter differ in this respect so remarkably, that their magnitude in any single experiment, as compared with the size of the blood-corpuscles, is of very little value in regard to establishing any relation or difference between these bodies.

Now, the interesting observations of M. Mandl on the blood corpuscles of the dromedary led the author to examine them in the paco (*Anchenia paco*), Llama (*Anchenia glama*), and Vicugna (*Anchenia vicugna*), in all of which he has found the blood-discs to possess a very distinct elliptical figure; and having had an opportunity of examining a small quantity of pus from the latter animal, the author found its corpuscles to be clearly spherical, and possessing the characters, in fact, of pus globules obtained from many mammalia with circular blood corpuscles. Hence, without denying the possibility of the transformation of the blood corpuscles into the globules of pus, the author remarks that such change could hardly have taken place in this instance.

On White Spots on the Surface of the Heart, and on the Frequency of Peri-arditis. By JAMES PAGET, Esq. (Communicated by J. G. PERRY, Esq.)

The object of this communication is to prove the inflammatory origin of the opaque white spots so commonly seen on the surface of the heart, by the fact, that they are almost always coincident with small threads or bands of organized lymph, forming adhesions between opposed surfaces of the pericardial membrane. The most common situation of these adhesions is between the great vessels, where they are passing out at the lower and back part of the pericardium, whither the lymph naturally tends both by its own gravity, and by the force of the currents excited by the heart's action, in the fluids around it, to settle and become organized. More rarely, adhesions pass from the surface of the white spots themselves to the opposite surface of the pericardium, or the lining of the sac opposite a spot is puckered, like a superficial cicatrix, so as to render it probable that adhesions had at some distant period existed and been gradually removed.

Regarding the white spots (with which, in all the cases, but two adhesions coincided) as indications of a former attack of pericarditis, it is shewn, by tables appended to the paper, that of 70 cases lately examined by the author at St. Bartholomew's Hospital, 33 had at some time suffered from that disease in a slight or more severe form. More than half of all the males examined, and nearly one-third of the females, had been thus affected.

The subsequent effects of this slight form of pericarditis are not appreciable, nor does it appear to be commonly connected with any other cardiac affection. The particular occasions in which it occurs are uncertain, but it seems to be not an uncommon accident in typhus fever and other acute diseases. Intemperance and its consequences are amongst its most powerful excitants.

GREAT ENLARGEMENT OF THE PLACENTA.

DR. KENNEDY next exhibited a placenta of extraordinary size. It was a single placenta; and the patient had not had twins. She had a contracted pelvis, and had been delivered by the crotchet at her first confinement; in the second she was delivered without instruments, but the edge of the placenta presented. The placenta occupied more than half the surface of the uterus, and was as large as that in a case of triplets which had been recently in hospital.—*Dublin Journ. of Med. Science.*

ULCERATION OF THE THROAT

EXTENDING TO THE LINGUAL ARTERY; DEATH BY HÆMORRHAGE.

Dr. Duncan presented the recent parts in this case. The patient, a young man, had been under treatment at the Adelaide Hospital, for ulcerated sore throat, for some time, when he was suddenly attacked with hæmorrhage from the throat, which returned twice in the course of a fortnight. He had left the hospital, but was readmitted, and on the following day the bleeding returned with greater violence, and he was much exhausted. The ulceration was found to have attacked the right lingual artery, which presented a perforation capable of admitting a large sized probe. The os hyoides was found to be carious. Dr. Duncan alluded to cases of the same kind which occurred under the care of the late Dr. M'Dowell, in one of which the external carotid had been tied with perfect success.—*Dublin Journal of Med. Science.*

SOFTENING OF THE

ANTERIOR COLUMN OF THE SPINAL CORD

IN ITS CERVICAL PORTION.

Dr. Power begged to draw the attention of the society to a well marked and recent specimen of acute softening of the anterior column of the spinal cord. The patient, a woman, aged 50, was suddenly attacked with paralysis of motion in the upper and lower extremities. The bladder and rectum were unaffected; a slight power of motion remained in the limbs. There was no loss of sensation; no fever, headache, or disturbance of intellect. Sensation in the paralyzed portions was perfect. Soon afterwards she was attacked with dyspnœa, and her breathing became diaphragmatic: ultimately the diaphragm became paralyzed, and death took place with great dyspnœa. The spinal column was opened on the following day, and the cervical portion of the medulla spinalis was found softened to a great degree.—*Ibid.*

RECEIVED FOR REVIEW.

The Eye: a Treatise on the Art of preserving this Organ in a Healthy Condition, and of improving the Sight; to which is prefixed a View of the Anatomy and Physiology of the Eye, with Observations on its Expression, as indicative of the Character and Emotions of the Mind. By J. Ch. August. Franz, Doctor of Medicine and Surgery, &c. &c. Churchill; pp. 296.

Gatherings from Grave-Yards, particularly those of London; with a concise History of the Modes of Interment among different Nations, from the earliest Periods, and a detail of the dangerous and fatal Results produced by the unwise and revolting Custom of inhuming the Dead in the midst of the Living. By G. A. Walker, Surgeon. London, 1839.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Nov. 7.

Thomas Howell, Risborough, Bucks.—William Partridge Mills, Ipswich, Suffolk.—William Amys Rolfe, Norwich, Norfolk.—John Brett, Camberwell.—Henry James Browse.—George Wride, Cross Somerset.—Charles Bartholomew Moody, Great Grimsby, Lincolnshire.—John David, Swansea, Glamorganshire.—Jonathan Haigh, Branfoot.

Thursday, Nov. 14.

James Robson, South Shields.—William Braikenridge, Enfield, Middlesex.—Thomas Yate, Madeley, Salop.—William Jeaffreson, Framlingham, Suffolk.—Robert Leadam Sleight, Hull.—Philip Whitcomb, Salop.—Robert Thompson, Mundford, Norfolk.

WEEKLY ACCOUNT OF BURIALS,

From Bills of Mortality, *Dec.* 3, 1839.

Abscess	3	Heart, diseased	4
Age and Debility	43	Hooping Cough	6
Apoplexy	1	Inflammation	8
Asthma	10	Bowels & Stomach	13
Cancer	2	Brain	2
Childbirth	2	Lungs and Pleura	13
Consumption	63	Insanity	2
Convulsions	29	Measles	12
Dentition	7	Mortification	1
Diabetes	1	Paralysis	8
Diarrhœa	1	Small-pox	1
Dropsy	15	Sore Throat & Quinsey	2
Dropsy in the Brain	2	Spasms	1
Epilepsy	3	Stricture	2
Erysipelas	2	Tumor	1
Fever	12	Unknown Causes	139
Fever, Scarlet	24		
Fever, Typhus	8	Casualties	10

Increase of Burials, as compared with the preceding week . . . 197

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Nov.	Thermometer.		Barometer.	
Thursday . 21	from 32	to 47	29·46	to 29·58
Friday . . 22	32	44	29·89	30·02
Saturday . 23	28	45	30·10	30·14
Sunday . . 24	29	51	30·07	29·73
Monday . . 25	45	55	29 64	29·31
Tuesday . . 26	34	42	29·32	29 34
Wednesday 27	22	38	29·33	29·39

Prevailing wind, N.

Except the 22d and following day, generally cloudy, with frequent and heavy showers of rain. Snowing very fast from about two till about twenty minutes to three o'clock on the afternoon of the 27th.

Rain fallen, ·6 of an inch.

Charles Henry Adams.

W. Ogilvy, Printer, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, DECEMBER 13, 1839.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.
Surgeon to the St. Marylebone Infirmary.

SUPPURATION.

Metastatic abscess — *Nature — Symptoms—How produced—Appearances—Treatment.*

Ulceration—*Definition—Distinction—How produced—Nature—Effects—Granulation—Cicatrization—Diagnosis—Curability.*

Particular ulcers — *Varicose — Cause—Characters—Liability to relapse—Treatment.*

There is one variety of abscess so different from those which occupied us in the preceding lecture, that I have thought it advisable to consider it entirely apart—I mean *metastatic abscess.* In that term I comprehend those purulent collections which are suddenly presented in a part of the body, where none of the ordinary signs of inflammatory action exist, whilst at some other and perhaps distant portion of the body suppurative action is present.

Nature.—The earliest of those medical men who endeavoured to discover the cause of death, after wounds and great surgical operations, pointed out the existence of internal abscesses in the principal viscera, particularly in the liver and the lungs. Later observers having observed their frequency and their gravity, did not hesitate to regard them as the most frequent cause of death in wounded persons. This fact being established and converted into a law, namely, the simultaneous existence of suppurating surfaces and numerous visceral abscesses, gave birth to many theories. Many wounds and operations being performed in persons in strong health, it was difficult to conceive that the visceral case discovered after death had preceded the wound; yet, as it is certain that a great number of organic diseases are long latent, and as these abscesses, from their number, their seat, and from other circumstances, were supposed to have an analogy with suppurating tubercles, many persons have maintained that these abscesses were the result of the development of pre-existing tubercles. Though this theory may not be entitled to universal adoption, it does not merit absolute exclusion, because I apprehend there are cases of scrofulous disease for which recourse has been had to amputation, where visceral abscess has occurred, and has been a consequence of the breaking down of pre-existing tubercles. Certain it is, however, that these abseesses are developed in the healthiest and strongest individuals, the most formidable symptoms succeeding suddenly to a condition apparently the most satisfactory.

Mode of production.—The idea of *metastasis* rested upon the following reasons:—"The diminution or suppression of external suppuration, which is the constant prelude to the formation of internal abscess; the absolute identity of the pus of the wound and that of the abscess; the absence of those general and local symptoms which are said to be characteristic of visceral inflammation; the rapidity with which these abscesses are formed; the absence of inflammation around them; the presence of pus in the veins and in the right cavities of the heart, in the midst of coagula." Supposing this doctrine to be admitted, the agent by which pus is transported from the wound to the viscera is supposed to be the veins, which exercise an absorbing power. Some persons are disposed to think that the lymphatics are the agents; others, that both are con-

cerned in producing the effect. The opponents of the humoral pathology objected to the one and the other, aad maintained that they were developed by *sympathy*. If, say Desault and Bichat, the liver be so frequently affected in wounds of the head, it is because the liver and the gastric organs are connected by very intimate sympathy with the brain. Others have maintained the opinion that these abscesses are owing to a simultaneous contusion of the head and the liver: in a few cases this may be true, but the abscesses we are considering may not only affect the viscera, but the synovial and the serous, the cellular and muscular tissues, and are independent of all contusion or concussion.

Surgeons of the last century paid much attention to these abscesses occurring in the liver after wounds of the head; they believed this organ to be their exclusive seat: it is true in this organ they are more readily observed, from the difference in colour; it is true, also, I believe, that they more frequently excite inflammation in the serous covering of the liver than in that of the lung, but still they are oftenest presented in the lung. In the spleen they are less frequent, and are darker in colour and less well circumscribed. In the brain we sometimes see an appearance as if the surface were studded with pus, and the smell is very offensive. In the heart the quantity at a point rarely exceeds a drop. But where these collections are most remarkable is within and around joints; they seem to prefer the larger—the knee, the hip, the shoulder, the elbow; they rarely affect a single joint, usually affecting several at the same time. In an extremely short time they effect the complete disorganization of the tissues of the joints. These collections are most frequent after parturition, great operations, and small-pox.

Symptoms.—The salient points of such abscesses are the astonishing rapidity of their production — their occurrence frequently without pain, heat, or redness, at the part, so that we are unaware of their existence until they point. Petit, in speaking of them, says these deposits are formed in a very short time, and before any indication of suppuration is presented, in consequence, probably, of the pus being already formed in the blood. This absence of pain, and of the ordinary symptoms of inflammation, is their character, whether superficial or deep-seated. Whatever internal organ is affected, the signs are very illusory; the only tolerably constant phenomenon attending them is the rapid and inexplicable supervention of serious symptoms, particularly of rigors, in the course of a suppurating wound. Externally we have certain signs to guide us; there is swelling, there is acute pain, instantaneously developed.

How produced.—How are these abscesses occasioned? In consequence of their development during the progress of suppuration, at a distance from the suppurating point, and without apparent inflammatory action, it has been conceived that pus was absorbed from the suppurating surface, carried along by the venous or lymphatic vessels, and deposited elsewhere; and this appeared the more probable, because the suppurating surface was dried up; but then these abscesses sometimes happen without suppurating surfaces, and the quantity of pus deposited in different organs is out of all proportion to the frequently small surface from which it has been supposed to proceed. In the greater number of cases, by careful examination we shall discover venous inflammation; this inflammation is suppurative; pus is mixed with the blood, and is carried into the circulation; the blood is changed, and excites the capillary structures so as to produce abscess. This seems to me to be the most reasonable explanation of these abscesses. They seem, therefore, to depend upon a purulent condition of the blood, which is produced by venous inflammation; but I by no means deny that other causes may not bring about a purulent condition of the blood; the inoculation of the pus of small-pox seems to be capable of producing such a condition.

There are three obvious modes by which pus may be introduced into the circulation: direct injection into veins or arteries; attraction exercised by an open capillary vein; and phlebitis. The *direct injection* of pus into veins produces the most serious consequences, similar to those which may succeed to wounds and great operations. Maréchal, adopting the experiments of Barry, maintained that a powerful attraction is exercised by veins upon the fluids in connection with their open mouths. But phlebitis is no doubt the common source of all the accidents which supervene as a consequence of wounds of veins.

These abscesses or purulent collections succeed, it is true, to amputation, to fractures, to great wonnds and great operations, and to parturition. But this condition may be developed in the absence of great wounds and great operations; it may succeed to injuries of comparatively small veins; indeed, any injury which may induce venous inflammation may occasion this state. After amputation the disease is rarely developed before the tenth day, but it may succeed earlier; I have known the disease to occur on the fourth day after bleeding. Their common seat is the thoracic and abdominal vis-

cera, and they seem to manifest the strongest predilection for those best supplied with blood-vessels — lungs, liver, spleen, brain, heart, and very rarely the kidneys; it may occur in the cellular tissue around veins, or even in muscular structure. Following a law of predilection for the most vascular parts, they are presented at the base of the lungs, the convexity of the liver, and they are commonly seen at or near the surface of organs, and not unfrequently excite inflammation in their serous covering. They rarely attain great size, but are often extremely numerous, studding the entire substance of an organ. The part of the organ in which these collections are found at first sight appears in nowise changed; and this has given cohesion to the idea that the matter is deposited in the part by the blood-vessels, and is not the result of inflammatory action at the spot. Hunter, and others who have succeeded him, observed "many small vessels converging to the point, and containing purulent matter." I believe that at first they are true depositions, but they excite inflammation at the part; the circle of tissue which is infiltrated seems to break down, and an ordinary abscess is thus formed.

A short time since I examined the body of a woman who died from purulent peritonitis. Many of these abscesses were found in the liver, in various stages of development. At first they presented a very dark ecchymosis, the dark point becoming harder, rounder, and blackish: pus gradually infiltrates this point, and converts it into a true abscess, which softens from the centre to the circumference. At first the surounding tissue looks healthy. If now we reflect that these abscesses supervene in the course of a phlebitis; that in a few days purulent infiltration occurs, and is soon succeeded by abscess; that they present special characters, such as are not seen in ordinary inflammation of a healthy tissue; that close to the altered tissue we usually find healthy structure; that the same condition may be observed after external and internal phlebitis; that those grave symptoms which accompany these abscesses strongly resemble those which indicate a miasmatic infection of the fluids, we must admit that if the transport and admixture of pus with the blood, in the course of a phlebitis, are not materially demonstrated, the opinion is at all events extremely probable; and I think the experiments of Cruveilhier (Dict. de Méd. et Chir. Pratiques, *Phlébite*) render the probability almost a certainty, and demonstrate that pus circulating with the blood is arrested in different parts of the capillary circulation; that where so arrested, it more or less rapidly determines capillary phlebitis, or circumscribed inflammation, which quickly passes through its periods to produce abscess; that this pus is most frequently arrested in the lungs; next in frequency, in the liver; then in the spleen.

Reasons are not wanting to prove that the lungs are for foreign substances introduced into the general circulation, and the liver for those introduced into the abdominal venous system, an inevitable recipient, and in many cases an impassable barrier. So that the phrase of the ancients, vena portarum, porta malorum, is an exact and precise expression of a practical truth of the highest importance.

Treatment.—The treatment of this disease, so far as I know, is powerless to change the condition of the blood; it might be possible to arrest the local phlebitis, and to prevent the introduction of pus into the blood. This must be done by pressure by means of bandaging along the limb, to seek to obliterate those veins, and by local blood-letting. With these I have been accustomed to exhibit salines, with acid, largely, together with camphor in large doses, quinine, and the most energetic stimuli. I have not ventured to push mercury and emetics, which some have recommended, because the signs of prostration were so pressing, and because I have seen them fail in other hands. Some persons strongly advocate the use of purgatives, because the injection of pus into the veins of animals is followed by abundant and very fœtid stools when they recover. It is, then, evident that the treatment of this affection must be concentrated at the first period, for when suppuration is once declared, and pus gets into the circulation, medicine is at present powerless. Frequently we are enabled to arrest phlebitis succeeding to blood-letting by the plentiful application of leeches in the course of inflamed veins: in fact, we are often enabled to arrest it, wherever seated; but pass that period, and let general symptoms be manifested, and general and local bleeding will be without effect, for although with the blood we may remove a portion of the evil, it is unfortunately constantly renewed.

ULCERATION.

Definitions.—I have carefully looked over a great number of definitions of ulceration, and have found none to which serious objections do not attach: for instance, if we take those of Petit and Boyer, the former defines an ulcer to be "a solution of continuity, from which pus, puriform, sanious, or other matter, flows." Now a wound is a solution of continuity from which pus flows. The latter says, "an ulcer is a

solution of continuity of the soft parts, more or less ancient, accompanied by a discharge of purulent matter, and kept up by some local mischief or some internal cause." Here, again, there is nothing to distinguish an ulcer from a granulating wound. Mr. S. Cooper says, "ulceration is the process by which sores or ulcers are produced in animal bodies." Very true; but it does not state what an ulcer is. The distinction which I prefer is that of Richerand: he says, "there is between a wound and an ulcer this characteristic and notable difference; that the first, produced by an external cause, essentially tends towards a cure, arriving at that state by a natural succession of periods, unless any thing should arise to derange its course. It is an acute disease, tending to a fortunate solution." An ulcer, on the contrary, is a chronic affection, produced or maintained by an internal cause: the solution of continuity is not here the principal disease; it is only a symptom of local or general internal affection. To this internal affection the ulceration is owing, and it prevents its cicatrization."

Distinction between wounds and ulcers.—Certain particular distinctions may be made between a wound and an ulcer. A wound results from the action of a foreign body; the cause of an ulcer is, on the contrary, inherent in the economy; consisting either in a particular disorder of the solids or fluids, or in a morbid condition of the part where the ulcer is situated. A wound is therefore an idiopathic affection; an ulcer is always symptomatic. A wound essentially tends to a cure, the action of its cause is instantaneous; an ulcer tends to enlarge, because its cause is still subsisting. The treatment of a wound is mechanical—surgical; that of an ulcer is medical—topical means are of less importance.

Any means physical or vital—a wound, an abscess, gangrene, or inflammatory action, by which a solution of the continuity of our tissues can be produced, may be an immediate cause of ulceration, because in the one case and in the other nature seems for a time powerless to repair the injury in the ordinary way. It is therefore very necessary to distinguish between the agent by which a wound is inflicted, and that by which the ulcerative action is kept up. Supposing a physical injury to be attended by a solution of continuity, the system being impregnated with syphilis, it is said that the wound may assume the character of a syphilitic ulcer. Delpech describes a case where the loss of continuity succeeding to the removal from the forehead of a flap for the purpose of repairing a deformity of the nose, assumed all the characters of syphilitic ulceration; the patient at the time suffering from that disease. A wound in a scrofulous person may be characteristic of scrofula; the same may happen in a person suffering from scorbutus. We must therefore understand an ulcer to be, a loss of substance of some part of the body, which, from some peculiarity, local or general, of the constitution, manifests no tendency to heal, so long as that particulias condition exists. Farther than this I am unable to go: I cannot say why a scrofulous ulcer ordinarily manifests so little tendency to heal; those probably are secrets of nature, which may never be revealed to us. We must therefore be content to take these as facts which, in the present state of our knowledge, are inexplicable.

How produced.—That great light of our profession, John Hunter, conceived that an ulcer was the work of an absorbent action. "This process," says he, "of removing whole parts in consequence of disease, in some cases produces effects which are not similar to one another; one of these is a sore or an ulcer, and I therefore call it ulcerative." "This operation of the absorption of whole parts, like many other processes in the animal economy arising from disease, would often appear to be doing mischief, by destroying parts which are of service, and where no visible good appears to arise from it; for it is this process which forms a sore, called an ulcer."

I confess my inability to understand that all ulceration is produced by an absorbent action: for instance, if I insert a small quantity of the pus of a chancre under the integument, I excite inflammation; that action is accompanied by exhalation, not absorption; serous fluid is exuded under the integument, the cuticle is separated, gives way, the cutis is exposed, and no attempt is soon made to cover it. In this way an ulcer is formed: whether the extension of a surface so formed be owing to absorption removing the tissues at the part, or to suppurative action breaking down the implicated tissues, seems to me a matter not so well determined as it is the custom to believe. Of course I mean ill-conditioned suppurative action, in which no disposition to reparation is shewn. Many ulcers commence by a tumefaction of the part with induration; they are more or less indolent, more or less chronic. From this state of induration it passes to a state of softening, in which the tissues aequire a pultaceous character; the integument gives way, and they are discharged. Tuberculous matter or pus again deposited in our tissues, become at the end of a certain time a cause of ulceration. These products have a re-

markable tendency to make a way of escape for themselves, and they frequently induce ulceration. Gangrene is a common cause of ulcers, and the manner in which it produces them it is easy to conceive. The affected part, deprived of life, is a true foreign substance to the living tissues; irritates, inflames them; pus may be formed; the eschar or slough is raised and thrown off; a solution of continuity or ulcer is produced, which may be long in healing.

Nature.—However ulceration is produced, left to itself its course is to extend; but the rapidity of its extension seems to vary with the nature of the ulcer: though involving all the surrounding tissues, all do not give themselves up to this destructive action with the same facility: aponeurosis, tendon, cartilage, and bone, resist for some time, and ultimately mortify, because the neighbouring tissues are broken down, and they cease to possess the necessary means of nutrition. Sometimes the progress of ulceration is very rapid, destroying in a short time a great extent of parts; sparing no tissue, not even blood-vessels, and thus occasionally causing hæmorrhage. In other cases, after having commenced by making rapid progress, it may remain for a considerable time stationary, or even may end suddenly by cicatrization.

Effects.—The effects of ulceration vary with the extent, with the importance of the part affected, with its duration, and with the constitution of the patient. An ulcer may destroy a great extent of integument, of subcutaneous cellular tissue, or muscular structures, from which great difficulties are experienced in inducing cicatrization, and the patient is enfeebled by pain and purulent secretion: the latter, when considerable, greatly exhausts the vital powers. The extent of destruction produced by ulceration, the disorders which it may set up in the constitution, may be so great, as to render it necessary at any cost to remove such a dangerous influence; may make it imperative to recur to amputation. By destroying the muscles of a limb, ulceration may destroy the functions to which the organ is destined; by destroying blood-vessels it may produce hæmorrhage: again, there are organs whose texture is very delicate, or whose conformation is very important, which cannot undergo ulceration without damage or destruction: the transparent cornea is in this situation; ulceration often attacks it, sometimes perforates it, causing occasionally the utter extinction of the functions of the eye.

Tendency.—When, by medical or other means, this state of the constitution is changed, the ulcer, even in the absence of any local treatment, may manifest a disposition to heal: healthy granulations are developed, healthy pus is secreted, a cellulo-fibrous tissue is formed, it gradually extends, usually from the circumference to the centre of the ulcer. When it covers the surface, the cicatrization is complete.

Granulation.—We must now shortly consider granulation, without which all ulcers and all wounds, not healed by "first intention," cannot heal. In 1825, Pauli published a work in which he very elaborately examined almost all the explanations of this phenomenon which had been propagated up to that period; and to this work (Memoire Physiologico-Chirurgical sur la Guerison des Plaies) I beg to refer all who are curious on this subject. Hunter, Home, and Thomson, in our own country, have laboured, and with considerable success, to elucidate the subject.

You are all familiar with those inequalities termed granulations which may be observed upon the surfaces of ulcers or of wounds healing "by second intention." They vary much in size and in colour. Gueterbock has observed them largest where the loss of substance is greatest, smallest where most superficial. My own experience does not enable me to confirm this observation; I have not succeeded in making out that this principle is general in its application. When healthy, their colour is of a more or less vivid red, but in this there is also much variety. Thomson observed that their temperature was two or three degrees above the natural temperature of the body, and this observation is confirmed by Pauli: in this experiment I have not been so fortunate as to be able to confirm the observation. When the granulations are covered by a poultice, I have found as great a difference as is stated between them and uncovered parts; but between the granular surface and the surface little removed from the margin of the ulcer, and also covered by poultice, the difference was very small, though, as far as it went, it confirmed their observations. Their tissue, though soft, is not wholly unresisting, but it bleeds upon very slight violence. Gueterbock has removed a very thin slice of a granulated surface, and placed it under a microscope. At the edges he saw irregular globules of pus, some globules of blood, and some bodies of a special character, very similar to those which Henlé termed mucous cylinders. In the interstices between those bodies, he observed very delicate transparent filaments, the globules being, as it were, between the filaments. These filaments were composed of fasciculi of very attenuated fibres. The corpuscles of these fibres presented a diameter about half that of the globules of the blood, but these

filaments always extended from one side to the other. He made an experiment to determine whether these granulations contained gluten. Those taken from a horse, well washed and boiled for seven hours in distilled water, gave no indication of gluten. The water obtained from it was precipitated by acetic acid and a solution of alum, but the two precipitates were insoluble in an excess of the re-agents employed; he therefore concluded that pyine was the substance which the granulations contained. He thinks that the filaments of granulations are formed of fibrin, like those which are observed in coagulated fibrin of the blood. He thinks that the globules found between these filaments are similar to globules of pus. As to the newly-formed vessels in this regenerated substance, he has never seen them take any constant direction. Sometimes, after plunging into alcohol a lamina of this matter, for the purpose of coagulating the blood in those vessels, he has observed one principal canal describing a semicircle, and dividing into smaller ramifications, which open upon a second, larger, and straighter canal; one, perhaps, being an artery, another a vein. Sometimes the blood has seemed extravasated and extra vascular. In fact, he has seen so many different arrangements of vessels as to induce him to believe that granulations are not, as was believed by Pauli, unequally formed of a capillary net-work, The surface of the mass is, however, better supplied with vessels than the deeper seated parts: this is easily seen by making a perpendicular section; the surface is most injected, the deeper seated part paler.

In all suppurating wounds or ulcers this new substance is formed. The doctrine of Fabre, Louis, and others, which maintains that such solutions of continuity are cured by a drawing in of the edges, and denies all regeneration, is, I believe, utterly incorrect. Equally incorrect, I apprehend, is the doctrine of intussusception, or a development from within outwards from the fundus and lips of the ulcer.

Pus is necessary to the production of granulations, from whence we may conclude that this matter has a more important place than a simple excretion, since it is found in the granular tissue. Suppuration, then, seems to be anterior to the production of granulations. Hunter appears to have been deceived when he thought he had seen granulations without suppuration. It is certainly necessary to reject the opinion of Bichat and others, that suppuration is preceded by granulations, or those of Gruithuisen and Pauli, who thought that both appeared at the same time.

Granulations unquestionably present newly formed vessels; the opinion of Hune, that they did not exist in this regenerating tissue, is manifestly untenable. Whether or not there be nervous filaments it is difficult to determine; the sensibility of the new tissue would certainly lead me to suppose that they were well provided with nervous energy. How this tissue is formed, and how it passes to the state of a cicatrix, we cannot determine.

Diagnosis.—To diagnose an ulcer is not difficult, but to determine to what particular cause it is owing is a much more serious matter. There may be local circumstances to facilitate this; thus, take a syphilitic ulcer, usually they are of unequal surface, their edges may be as if perpendicularly cut, and they are surrounded by a brownish areola; but frequently these characters are not presented or are ill expressed, and, therefore, to ascertain the cause will often be a matter of difficulty.

Cicatrization. — It must, therefore, be evident to you that an important condition in the cure of ulcers is the destruction of the cause. It is true nature will sometimes cure an ulcer without satisfying this condition, but the cicatrix is rarely solid, and the ulcer will often, after a short time, break out again. When by methodical means we have destroyed the condition upon which the ulcer depends, it will gradually assume the characters of a simple wound in process of cure; the surrounding tumefaction is dissipated, the edges become thinner and less raised, the ulcerated surface presents healthy granulations, it is covered by healthy pus, the edges become paler and drier, and covered by a white pellicle, a certain sign of cicatrization which proceeds from the circumference towards the centre. The fibro-cellular tissue, developed upon the surface of a suppurating wound to constitute the cicatrix, has a very decided retractile tendency, by which a comparatively large ulceration may, when cicatrization is complete, be brought into very narrow limits. At first cicatrization proceeds rapidly, especially where parts are not resistant; afterwards, the progress under even favourable circumstances, is less marked. A circular ulcer is slower in healing than an oblong or an oval one. The ulcered surface during this process presents granulations, which become so much redder, more distinct, and more projecting, as the process is more decided. Where the ulcer has been extensive, it happens that when the surface has undergone a certain reduction the process often seems suspended, the edges become red or violet, the surface acquires a tint

darker than the vermillion it before presented, the granulations flatten or disappear, the suppuration becomes thinner, less elaborated, and things may remain in this state for a long time; this is particularly the case with scrofulous ulcers, in winter. The stationary condition of an ulcer whose cause is destroyed sometimes depends upon different circumstances; irritating applications upon the surface itself, any exercise which exposes the surface to friction, debility, gastric disease, or any other general affection, capable of exercising a sympathetic influence upon the skin, may have a similar result. If the cause of ulceration have been destroyed, and yet, after cicatrization has proceeded to a certain extent, it becomes stationary, in spite of ordinary applications, and it is observed that the long continuance of morbid action in an ulcered surface, sometimes unfits it for cicatrization, we may frequently succeed by the use of caustic in destroying the old surface. When the eschar comes away the cure may often be rapidly accomplished.

Many circumstances favour or oppose the cicatrization of ulcers; those developed in parts where the skin is loosely adherent to subjacent parts, often heal very rapidly; those which affect parts very adherent to subjacent parts, and in a continual state of tension, are often very refractory; those on the internal surface of the leg, and those seated about the ankles, are in this case. Again, the state of the atmosphere is not without its influence; during damp cold weather an ulcer will often yield thin and sanious pus; any change in the organization they rapidly feel, their surface becomes pale or grey, or fungous, the suppuration is diminished, is grey or serous; position, again, will produce many changes; the erect position will often cause an ulcer of the leg to bleed.

Curability.—As to their curability, those of the lower limbs are more obstinate than those of other parts of the body; those developed near points where bones project are often tedious; those which are circular do not cicatrize as soon as those of any other form; those which are old and callous are not so easily healed as those which are recent, and whose edges are exempt from induration.

In this lecture we propose to consider only a particular class of ulcers affecting the lower extremities, and usually more or less dependent on varicose veins. Specific ulcers, such as scrofulous, scorbutic, syphilitic, and cancerous, will be considered with the several diseases to which they belong.

Particular ulcers—Varicose.—Under the term *atonic* ulcer it is customary to range all those which seem to be a consequence of local or general debility; their more common seat is the legs, parts farthest removed from the centre of the circulation. Of the two legs, the left is much more frequently ulcerated than the right; in the proportion, in my experience, of 93 to 27. This is not very dissimilar to the experience of Ponteau, and is manifestly opposite to what we might *à priori* expect, because the right leg is usually the first advanced, and, therefore, more exposed to accident than the left.

Causes.—Ponteau conceived that the reason of this was an interference with the venous circulation, by the pressure made upon the left iliac veins, by the distended sigmoid flexure of the colon. There may be truth in this, but I know of no direct proof of the fact, if fact it be. There is a certain kind of confirmation of this view of the subject, afforded by the frequent existence of a varicosed condition of the veins of the legs; of 203 cases of ulcered leg occurring in the left side, 159 were manifestly connected with this condition of the veins. Some persons incline to the opinion that it is dependent upon another circumstance, the greater feebleness of the left than the right side. Whatever may be the predisposing cause, certain occupations seem to excite their development; especially those which require the person to be much of the day in the erect position—printers, washer-women, are much exposed to it. Such ulcers are extremely common among the rice-workers of Piedmont.

At the same time, therefore, that I believe the exciting cause of by far the larger number of cases of ulcered legs to be the vertical position of the body long maintained, yet that position does not account for the greater frequency of the disease on the left leg than the right, neither does it explain why varicocele is so much more frequent on the same side; there must be some other cause for this circumstance; whether it be an original weakness, or whether it be such an obstacle to the return of venous blood as I have already alluded to, I cannot tell. The erect position which certain occupations require during the greater part of the day, tends to retard the backward progress of the blood, its course has the influence of gravitation opposed to it, certain of the valves give way, the weight of the column upon others increases, they yield in turn, the venous parietes yield, the distension increases, the veins are dilated, become tortuous, varicosed, blood finds increasing difficulties in its refluent course, and a constant state of congestion of the limb is the consequence. Certain observations, recorded by Bouillaud, many years ago, in the Archives, very clearly shew that one

effect of mechanical obstacles to the passage of blood in veins is an exhalation of serous fluid through the parietes; this fluid, but more or less coagulable, matter, distends, and often breaks down the cells of the cellular tissue, and produces a spongy ill-conditioned state of that structure; the cutaneous integument over it is not well nutrified, it becomes thin, brownish or reddish, and ready to give way from very slight causes, and the ulcers which succeed are often, as might be expected, painful and obstinate; most commonly the ulcer is callous or indolent, but it may be irritable; it may have raised edges, or they may scarcely be presented above the ulcered surface. In the progress of age, even when large branches of varicose veins are not presented, yet the veins are less active, and if the erect position be maintained for several hours every day, the cellular tissue will undergo changes, the same in kind, though less in degree, than those to which I have already alluded; this is the reason why a wound on an old man's leg is long in healing, why a similar wound upon a younger person, whose tissues are comparatively healthy, heals readily. Of ninety-seven cases of ulcered leg admitted last year, sixty-seven were women; it may be asked why this difference? It is because forty-nine of those women were either washerwomen, laundry-women, or wretched creatures living on the charity of the public, obtained by walking the streets during the greater part of the day, and because the causes of venous obstruction are more direct in women than in men. The gravid uterus, in most women, gives sufficient evidence of this; the œdematous condition to which I have alluded is the ordinary condition of the legs in an advanced period of pregnancy, but much of it is dissipated with the removal of the cause.

Sir E. Home was wrong in his statement that all varicose ulcers are developed more or less immediately in the course of the veins; he does not seem to have been aware that the infiltration was general, and that they might appear on any part: he confines them to the inside of the leg, just above the ankle. Taking sixty-seven cases of varicose ulcer, I found twenty-nine on the outside. The fact is, one saphena is affected almost as frequently as the other, and we might therefore expect that the outside of the leg would suffer almost as frequently as the inner.

Characters—Although a varicose ulcer, when dependent upon no other cause than the diseased vein, does usually put on a particular appearance, there is nothing uniform about this. Take four cases of ulcered leg, in each the cellular tissues is greatly infiltrated, the leg is half as large again as natural, the veins are varicosed, though somewhat concealed in the infiltrated tissue; you will have four ulcers essentially different. To say, therefore, that a varicose ulcer is seldom very deep, that when it spreads it is along the surface, that it is usually oval, the ends of the oval pointing vertically, that the edges of the surrounding skin are commonly neither thick nor irregular, but are imperceptibly lost in the ulcer, that the pain which it gives is seldom from the surface, for pressure does not increase it, is to describe a case which you may often realize, but which has no direct or uniform relation with varicose veins: of twenty cases of ulcered leg occurring during the last three months in varicose subjects, in only one was that condition realised, and in that case, a woman of fifty-five, the veins were varicosed only to an inconsiderable extent.

Liability to relapse—Treatment.—Varicosed ulcers are very susceptible, and especially liable to relapse—the horizontal position, and equable compression, will in the great proportion of cases effect a speedy cicatrization, but no sooner are these means dispensed with, than the original causes of disease are again in action to reproduce the ulcer. Although the horizontal position by facilitating the return of blood, facilitates cicatrization, yet equable compression firmly made by carefully bandaging the limb, will afford the veins the support they require, and will accelerate the cure. But the dilated veins will not, either by bandaging or position, resume their healthy condition, and, therefore, the cure is only temporary. The patient must employ the bandage, or the laced stocking, to prevent the recurrence of ulceration. There are many persons whose condition in life does not admit of their using these means, and they are annually the denizens of an hospital, or attendants upon a dispensary. It is by giving this support that the strapping system of Baynton and others procures the rapid cicatrization of these ulcers; but, although the cure is rapid, the relapse is also rapid. Baynton was accustomed to apply the straps completely around the limbs, commencing an inch below and extending to an inch above the ulcer, and now and then they were found to act like ligatures: at present, when this means is employed, the strap only partially surrounds the limb; for instance, if only the internal saphena be affected, the strap need not cover the external, and *vice versa*. Even then, it will often irritate the skin, and if bandages were properly applied these straps would be quite unnecessary.

Attempts have been made to effect a permanent cure by employing some means of obliterating these diseased veins. A small

knife has been passed under the skin and a section made; the hæmorrhage is trifling and soon suppressed by slight compression. Caustics—caustic potash and soft soap, of each equal parts—as well as other formulæ, have been applied upon the integuments in the course of a vein, so as to make an eschar deep enough to implicate the vein; the ligature has been used for the same purpose, but although the immediate object, that of obliterating a vein, may be attained by either means, the cases of fatal inflammation of veins produced by them have occurred with sufficient frequency to induce the general abandonment of a mode of treatment which is not unlikely to substitute a fatal disease for a bearable infirmity. Within the last three or four years a new mode of obliteratihg these veins has been a good deal employed. I have frequently used it myself, and with the exception of a case which occurred to Mr. S. Cooper, and another to Velpeau, I know of no bad consequences which have followed its employment. A hare-lip needle or two are passed under the largest varicosed vein, a little removed from the ulcer; around each a thread is twisted, not very tightly, but sufficiently so to prevent the passage of blood, but not to injure the integuments, and in five or six days the obliteration is complete. It may be asked, whether when the internal saphena is obliterated, the blood, in finding its way back, does not dilate the smaller veins, and induce in them a varicose state? This is not usually the case; much of the blood seems to get back through the deeper seated veins, which are better supported, and, therefore, less disposed to give way. It is probable, if care were taken to ascertain the condition of the patient's general health, that fewer fatal cases of phlebitis would occur. As to the use of internal medicines in the treatment of these ulcers, any thing beyond a careful regulation of the bowels will be unnecessary. I do not, however, wish to convey an idea that all ulcers of the legs will readily yield even to any treatment; if very irritable, leeches are sometimes necessary; sometimes opium has a good effect; if very sluggish, caustic may be necessary; if the edges are much raised, careful compression will be required; but these are exceptional cases; the horizontal position and bandaging will certainly cure nineteen-twentieths of the cases which are presented.

I am quite alive to the occasional inconveniences of confining patients for weeks to bed for the purpose of giving them the advantage of the horizontal position, as well as compression; and it therefore may be a question whether in many cases it may not be as well to rely on careful bandaging alone, and allow them to proceed about their ordinary avocations. Certain it is that the ulcers do not heal so quickly under this system: neither do I believe, as some persons do, that the cure is more permanent; it has, however, this advantage, that occasionally persons from habit continue the bandage, and thus lessen the chances of relapse. Under the bandage any irritating application may be made. You should accustom yourself, whenever opportunity offers, in applying bandages, few students are sufficiently impressed with its importance. A bandage should always be so well applied that although the patient walk about, it should not be deranged for several days. The bandage should be made of flannel or calico, the latter often irritating, but it has the advantage of greater elasticity. The breadth of the bandage should not be more than two inches, otherwise it cannot be put on smoothly; the length must vary with the size of the limb; it need not extend beyond the roots of the toes, nor usually beyond the small part above the calf. The best means of acquiring tact in the application of bandages is frequent practice—and this you can have no difficulty in obtaining.

When of moderate extent ulcers may subsist long without inconvenience; but those which implicate large surfaces insensibly establish in the system a new habit, which becomes ultimately as it were a physiological condition. It is particularly in feeble and irritable subjects, those who have some visceral derangement, and in aged persons, that this new habit becomes of great importance. Thus the debility produced by an old and extensive ulcer may become dangerous, and yet the local affection having existed so long, and the state of the constitution being so deteriorated, we hesitate to suppress the action existing at the part. It is believed by many persons that worse dangers are often developed by such suppression; thus Delpech states, that he has seen hydrothorax and anasarca succeed to the sudden cessation of old suppuration. Fabricius Hildanus, Heister, Sharp, Ledran, and others, mention cases of apoplexy, diseases of the thoracic and abdominal viscera, succeeding immediately to the cure of certain ulcers. Camper and Bell maintain an opposite doctrine. My own experience would induce me to coincide with the former opinion, though I have not yet collected a sufficient number of cases to make the matter clear. It is possible that careful diet, purgatives, and the establishment of an issue, might avert the occurrence of such diseases as have been referred to.

LECTURES

ON

THE PHYSIOLOGY OF THE STOMACH,

Being the Gulstonian Lectures for 1839; *delivered at the Royal College of Physicians in London,*

By R. B. Todd, M.D.F.R.S.

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Lecture III.

On the structure of the mucous membrane of the stomach.

It is from an accurate knowledge of the minute structure of the mucous membrane of the stomach that the most correct deductions may be made, in a physiological point of view. Nor, indeed, is this knowledge less important and valuable to the pathological inquirer, whose aim should always be to detect the seeds of disease before they have yet begun to germinate. But it can scarcely be expected that any degree of success shall attend researches into the morbid changes of any structure, if the observer be ignorant of its anatomical characters in health. I feel that I cannot too strongly urge upon pathologists generally the necessity of obtaining a more intimate knowledge of the natural structure of organs, than that commonly possessed, in order to investigate with success the alterations to which those organs are liable. On no one subject are the statements of morbid anatomists less to be relied on than with reference to the morbid changes of the mucous membrane of the stomach; nor is there any matter on which more crude and inconsistent reports have been published. It is but a few years since the variations in the supposed morbid states of the liver were pointed out, by the relative proportions which the so-called red and yellow substances of that organ bore to each other; but now that we are acquainted with the minute anatomy of this viscus, we are able to estimate correctly the degree of value which may be assigned to these varieties of colour; we know, indeed, that these varieties of substance in the liver, although for many years described by anatomists of great and deserved reputation, were, in fact, no more than fictions, adopted for the purpose of explaining that which they felt it difficult to explain, only because they were ignorant of the real anatomy of the organ.

Notwithstanding the attention which was given to the investigation of the anatomy of the tissues, in France and Germany especially, and in a less degree in this country, but little advance had been made in our knowledge of that of the gastric mucous membrane, and although in the writings of Haller, Hewson, Cuvier, Meckel, and Home, we can trace some approach to a knowledge of the true structure of this membrane, one is surprised that, with the means and opportunities, and the zeal, which those anatomists possessed, they did not come nearer the truth. Recent microscopical investigations have, however, completely revealed to us the minute anatomy of this membrane; those of Dr. Sprott Boyd were published in the Edinburgh Medical and Surgical Journal, for the year 1836, and constitute a very valuable, extensive, and, upon the whole, accurate series of researches. Shortly afterwards the indefatigable Purkinje investigated the subject, but I have only seen a passing allusion to his examination, in a paper by himself and Pappenheim, on the influence of electricity upon artificial digestion, in Muller's Archiv. for 1838; and at the end of last year a paper appeared in the same journal, from the pen of Professor Bischoff, of Heidelberg, containing a very full account of his examination of this membrane. Before I had the advantage of perusing this paper, I had myself examined the membrane of the stomach in several animals of each of the vertebrated classes, and had obtained a knowledge of its intimate texture, which, in the main points, agrees with the descriptions of the authors to whom I have just referred. The account which I shall give in the present lecture is derived altogether from my own observations.

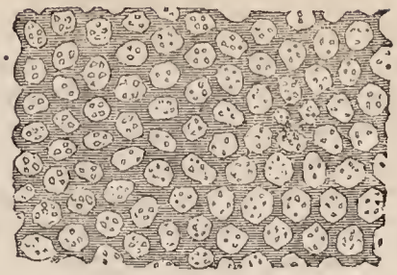
To obtain a perfectly satisfactory view of the anatomical characters of the gastric mucous membrane, it is necessary that the stomach of an animal quite recently dead, should be selected for examination. The surface of the membrane is constantly overlaid by a more or less thick layer of mucus, generally tenacious, and adherent to the subjacent cells, from the mouths of which it is poured out. There can scarcely be a doubt that this mucus exerts a destructive influence upon the membrane with which it is in contact, and if it be allowed to remain in contact for a sufficient length of time, the surface becomes so softened and, as it were corroded, that all traces of the natural structure of the tissue completely disappear. Hence the first care of the anatomist, after having obtained a sufficiently recent stomach, must be to remove completely the adherent layer of mucus. Nor must this be done by any violent mechanical means, such as scraping the surface with a knife, or the edge of any sharp instrument; it may be completely and satisfactorily accomplished by directing a stream of water upon the surface: let the whole mucous membrane be

well washed under a large stream flowing from a cock, and then with a good syringe direct a moderate stream upon each portion of the membrane in succession; by these means in a short time the layer of mucus may be very completely removed, and then the stomach may be kept in a weak spirit for an indefinite period, without suffering any alteration in its structure. I have in this way preserved for many months several injected and non-injected specimens, which completely retain their natural appearance, and will, I have no doubt, continue in the same condition.

Thus prepared, the structure of the membrane may be ascertained by various modes of examination. A portion of it injected or otherwise, pinned on a piece of cork, and illuminated by light thrown upon it by a condenser, may be examined under water by the simple or compound microscope, and with the aid of a lens, or object glass, of even very low magnifying power. I find that the Coddington lens, or in the compound microscope an object glass of two inches focal distance, affords a most satisfactory view of the surface, arranged as I have stated. In a successful injection the mode of distribution of the capillaries is beautifully seen, but they are so numerous as to conceal the arrangement of the membrane, and, therefore, the anatomist must not confine himself to the examination of injected specimens only. Thin vertical sections of the membrane must next be made, and if these be sufficiently thin they may be examined as transparent objects; but the structure is very well seen when they are placed on a black ground, and examined as opaque objects. I have found it also extremely useful to make very thin horizontal sections at various depths of the membrane, and to examine them by transmitted light. This mode of examination, which has not, so far as I know, been adopted by other observers, has enabled me to satisfy myself about several points in the structure which without it must have remained doubtful.

When a portion of the mucous membrane of a true digestive stomach is examined, stretched upon a plane surface under water, we observe it to exhibit a multitude of small cells more or less circular in form. These cells are present over the whole surface, where a thick epithelium visible to the naked eye does not exist, and their presence may be considered to be characteristic of the true digestive surface, as contra-distinguished from that of a simple macerating cavity. When the mucus has been well cleared away, we can see to the floor of each cell, which exhibits from three to five perforations, often rendered distinct by being filled with the white mucous secretion (fig. 1.) The cells are separated from

Fig. 1.



This figure (from Bischoff) represents the cells seen on the surface of the stomach, with their floors perforated by the orifices of the tubes.

each other by partition-like elevations of the membrane, which vary in depth, and sometimes even form pointed processes, mistaken by some anatomists for villi, which they really do resemble when examined on an oblique section. The diameter of the cells is about 1-180th inch to 1-250th inch: it varies, however, in the different regions, and is always largest near the pylorus. Such is the general description of the mucous surface of the stomach of all animals in which I have examined it—in man, the dog, cat, lion, the fourth stomach of ruminants, in the pig, rabbit, horse, and ass; in the simple stomachs of the frog and waternewt, in the stomach of the turtle, and in those of the skate and cod, in the former of which each cell measured 1-360th of an inch.

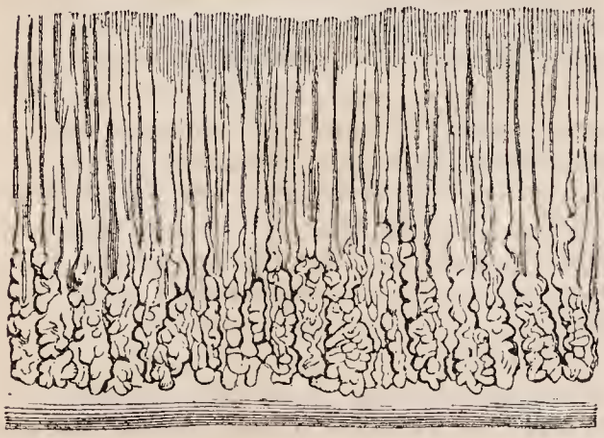
When the vessels of the stomach have been minutely injected with the size injection coloured red, nothing can be more beautiful than the vascular net-work which is then seen on the surface of the mucous membrane. The margin of each cell is surrounded by a vascular circle, which is joined at various points of its circumference by minute vessels emerging from the substance of the membrane, (fig. 3), and all the circles anastomose with each other. I know nothing which more forcibly exhibits the intricacy of the capillary vessels themselves than this vascular network on the surface of the gastric mucous membrane.

Although the appearance which I have described is rendered visible by a lens of very low magnifying power, so low as three or four diameters, no trace of it can be seen by the naked eye. The orifices of the so-called gastric glands, which Sir Everad Home states may be seen at the pyloric and cardiac portions of the mucous membrane of the stomach of man and other animals, can correspond to nothing but the cells which I have described; yet it is difficult to imagine, if he really did see these cells at the cardia, how he could have avoided seeing them, similar in arrangement although different in size, all over the mucous surface. Not unfrequently a remarkable series of smaller

wrinkles is seen on the pyloric and cardiac portions of the membrane. Three slight and very short fissures radiate from a central depression, and these occur in so great numbers, and at such regular distances from each other, that they are not unlikely to be mistaken for a peculiar structure, nor to be set down as glands, by those who are zealously in search of a distinct series of such organs in connection with the stomach. I have seen this appearance many times on the human stomach, and always in that of the pig; and I am disposed to think that it is produced by the contraction of the muscular coat, although I am unable to explain exactly the manner in which it is effected.

When thin sections of the mucous membrane, cut vertically to the surface, are placed under the microscope, they are seen to be composed of a number of tubuli closely applied to each other side by side, their blind extremities being in contact with the submucous tissue, and their free extremities opening into the bottom of the cells. In some situations these tubuli are straight and short; in other parts they are longer, and at their blind extremities present an appearance which might arise either from a slight convolution of the tube, or from some irregular dilatations of it in that situation (fig. 2). It very commonly

Fig. 2.

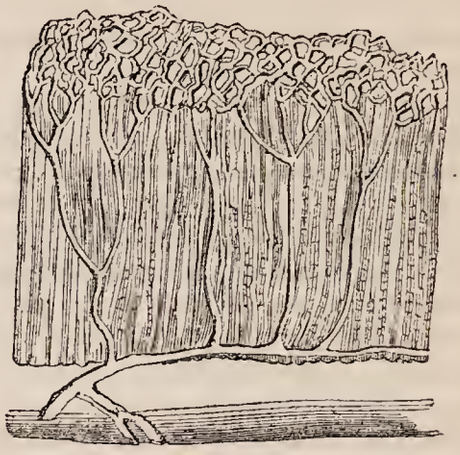


Tubes from the pyloric portion of the stomach, as seen by a vertical section.

happens that two tubuli coalesce or anastomose at their free extremities, and they will consequently open upon the floor of a cell by a common orifice; and hence it is that a greater number of tubules actually pour their contents into a cell, than would be indicated by the number of openings which pierce its floor. The diameter of the tubuli varies from 1-360th to 1-540th of an inch.

The tubuli are straiter and shorter at the cardiac portion of the stomach, longer and more convoluted, or irregular, at their blind ends, at the pyloric portions. In a vertical section of an injected specimen, we see the vessels coming up from the submucous tissue, and passing between the tubuli, as in the annexed figure (fig. 3), to terminate in the vascular net-work on the surface.

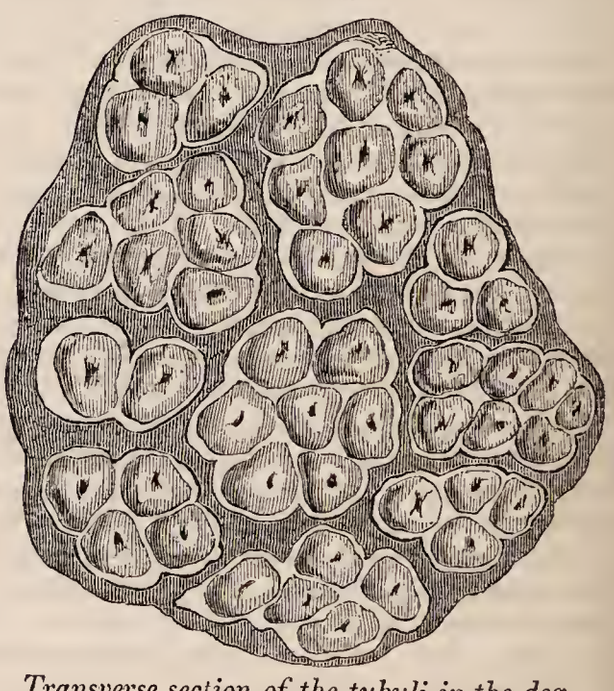
Fig. 3.



Vertical section of the mucous membrane, shewing the vessels passing to the superficial network (from Bischoff.)

From the examination of thin horizontal sections at various depths of the membrane, I have ascertained that the tubuli are arranged in bundles or groups, surrounded and bound together by a fine cellular membrane, the bundles varying in size, and in the number of tubules contained in them, as shewn in fig. 4, which represents such a section of the dog's stomach, magnified about 100 diameters.

Fig. 4.



Transverse section of the tubuli in the dog.

When a very thin horizontal section taken from the free surface of the membrane is placed under the microscope, the free surface being upwards, and covered with talc or thin glass, a very beautiful view of the mouths of the cells, and the arrangement of the membrane around and

between them, is obtained. When viewed with an object-glass of a quarter of an inch focus, the membrane surrounding each cell appears raised, so as to form around each cell a prominent circle, from which the membrane inclines downwards into the cell; and if the section have gone below the level of the floors, we can see that the membrane is continued to the perforated floor of each cell.

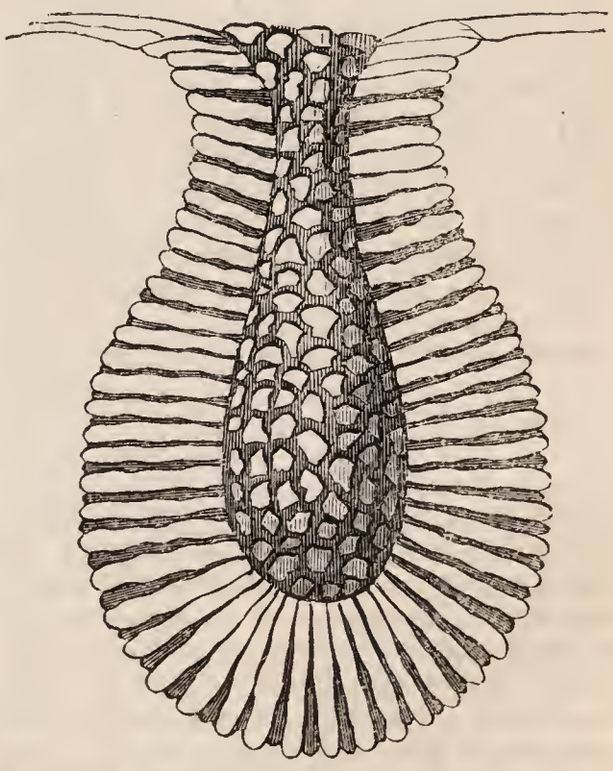
From similar sections we are enabled to see very clearly the arrangement of the epithelium on the surface. I have already stated that the absence of a thick epithelium, visible to the naked eye, is characteristic of the true digestive stomach. An epithelium, however, nevertheless exists, of a very definite arrangement, which is distinctly brought into view by the use of high powers, of a quarter and eighth of an inch focus, and we are indebted to Henle for the first complete demonstration of the existence of an epithelium upon the whole mucous tract, from the mouth to the anus. My observation, however, does not confirm the statements of this anatomist with respect to the gastric mucous membrane: I have never seen the cylindrical form of epithelium in any part of the stomach. The whole surface of the membrane, on the contrary, appears to be as it were covered with a pavement of fine polygonal epithelium scales, which under the highest power present an appearance very similar to that of shagreen. The scales not only occupy the space between the cells, but pass over their margins, and are continued down to their floors. The diameter of the scales, in the dog, in the cardiac portion of the stomach, was from 1 3100th to 1-2325th of an inch. These scales resemble very much those of the deep layer of œsophageal epithelium, both in form and dimensions.

The matter contained in the tubuli appears to be of a very different nature from the scales of the epithelium: it is a soft, whitish substance, composed of minute granules, which exhibit no trace of structure even under the highest powers. This matter may be readily obtained by pressure from the tubes, in which it always exists in considerable quantity: it is in every respect the same as the layer of mucus which covers the membrane of the recent stomach.

In my examination of the stomach of the porpoise I observed that the mucous membrane of the second and third cavities was destitute of cells; it nevertheless is composed of vertical tubes similar to those found in the digestive stomach of other animals; a structure first noticed by Cuvier, and subsequently described by Sir David Brewster. These tubes, then, instead of opening into the bottoms of cells, open at once upon the surface. Their mean diameter is 1 360th of an inch: they are long in proportion to their diameter, and straight, not exhibiting the convoluted or irregular appearance at their blind extremities, which we have noticed in the carnivorous stomach. On an injected portion of the membrane the vascular circles were seen of a similar nature to those before described. The mucous membrane of the fourth stomach exhibited cells of an oval form, 1-1538th of an inch wide, and 1-1025th of an inch long. The cells were shallow, and the tubes short and indistinct, excepting at the termination of the membrane where it passes into that of the fifth cavity: here the tubes were distinct and long, and in the fifth stomach they acquire the same characters which they possess in the second and third.

The structure of the mucous membrane of the proventriculus or true digestive stomach of birds demands a separate description. Here it will be recollected the membrane presents a multitude of large follicles, which open into the cavity of the proventriculus Each follicle may be considered as a little stomach in itself: when a simple follicle is laid open in its long diameter we observe a number of minute orifices on its internal surface, which are those of a series of tubuli arranged side by side, and vertically to its wall. The annexed figure (fig. 5) is a diagram repre-

Fig. 5.



Vertical section of a simple follicle of the proventriculus in the pigeon.

senting a vertical section of one of these follicles in the pigeon: the tubes in this bird are all short and straight, and measure

in diameter from 1-540th to 1-720th of an inch. The free surface of the membrane lining the cavity of the proventriculus is covered by a delicate epithelium; the scales of a less distinct character than usual, polygonal, but with one or two of the angles rounded off.

The follicles of the proventriculus of the ostrich are of the most complex kind: into each follicle a series of smaller and simple follicles pour their secretions, so that one of these compound follicles may be said to represent on a small scale the proventriculus of the pigeon. Each of the smaller follicles has exactly the structure of the simple follicle of the pigeon. The compound follicle, then, consists of an aggregate of simple follicles placed side by side, and vertically to the walls of the large ones, whilst each simple follicle consists of an aggregate of tubuli as before described. The epithelium is very distinct on the surface of the proventriculus, on which also there are numerous triangular processes not unlike villi.

From the preceding description of the structure of the mucous membrane of the digesting stomach in the vertebrata, we may not improperly designate this membrane as a gland; its constituent tubes being arranged perpendicularly to an extended surface, and pouring their secretions into a number of cells; not, as in other glands, into one or more canals or ducts.

The change which the food undergoes in the stomach has long been known under the name of *chymification*; it consists in a total breaking down of the substance of the alimentary materials, into a soft semi-fluid mass, in which the natural texture and chemical composition of those substances are altogether changed. Albumen, for example, when introduced in a fluid state into the stomach, is first solidified, and then brought back again to the fluid state, from which it is not capable of being again solidified, or at least as completely as before. And starch, which has been thus acted upon in the stomach, is, according to Tiedemann and Gmelin, converted into gum of starch and sugar. Gelatine, moreover, loses, after digestion in the stomach, its property of gelatinising spontaneously; the various forms of animal and vegetable food become so broken down and dissolved as to be no longer recognizable; moreover, when substances are of such a nature as to resist the influence of the powers of the stomach, whatever they may be, they generally pass through the intestinal canal comparatively unaltered, inasmuch as there is no part of that canal in which they meet with the same solvent or reducing principles as are found in the stomach.

It is well known that the chymifying powers of the stomach have been from an early period ascribed to the influence of a special secretion, from the walls of the organ; an hypothesis first advanced and in a great measure proved by Reaumur, whose observations were published in the year 1752, in the memoirs of the Académie des Sciences; Reaumur's views were shortly afterwards confirmed by Spallanzani and Stevens, and subsequently by John Hunter; and within the present century have received the most ample confirmation from a great number of sources, of which I may mention Tiedemann and Gmelin in Germany, Dr. Prout in this country, and Dr. Beaumont in America. This fluid, the *gastric juice* of authors, is always acid, and when removed from the body and placed at a temperature of 100°, exerts a similar power over the alimentary substances submitted to it as in the stomach. It became important, therefore, in order to determine to what the solvent powers of this secretion were due, to ascertain its chemical constitution; and although the present imperfect state of organic chemistry scarcely enables us to determine, with perfect certainty, the true constituents of this fluid, it may be stated as the most probable result of the various analyses to which it has been subjected, that the gastric fluid contains water, with various neutral salts, free muriatic and probably also acetic acids.

Various experiments were instituted with a view to ascertain how far fluids, formed artificially in imitation of the gastric juice, would produce similar effects on the different kinds of food, which accordingly were subjected to the action of various chemical mixtures, containing acetic and muriatic acids alone or together, more or less diluted; and the negative result at least was obtained, namely, that no artificially formed fluid appeared to act upon the alimentary substances submitted to them, at all in the same way that the gastric fluid does. Whilst experimentalists succeeded perfectly in producing artificial digestion, by the aid of the gastric fluid taken from the stomach, they entirely failed when they had recourse to artificial fluids, made in imitation of the natural secretion.

To a German physiologist, Eberle, author of an interesting work on digestion*, we owe the discovery of the cause of the failure in these experiments, and I cannot but regard his discovery as one of the most important of modern times. Having fail-

* Physiologie der Verdauung nach Versuchen auf naturlichem und kunstlichem Wege. Wurzburg, 1834.

ed in a great variety of experiments on artificial digestion, with a view to ascertain the cause of failure he applied himself to investigate the condition of the stomach during the chymifying process. He was struck with the large quantity of mucus which is always poured out upon its surface as well as upon that of the food, during that process. In the latter situation Eberle had observed the mucus adhering to the surface of the mass of food, in the form of an expansion so like the membrane of the stomach that he at first supposed it to be that membrane removed with the food; he found that this mucus existed in greatest abundance at the earlier periods of stomach digestion, and that in the later periods it became subdivided, and portions of it were mixed with the food. When the alimentary matters are chiefly of a fluid nature, this mucus was not so readily detected, from its being diluted and mixed to a greater extent with the contents of the stomach. The mucus deposited during digestion is of a greater consistence than that which ordinarily lubricates the gastric surface; it is invariably acid, and these characters are found in the true digesting stomach, whether in the simple carnivorous form, or in the fourth stomach of the ruminant, or the proventriculus of birds.

This mucus diffuses readily in water, forming a thin acid fluid, by the action of which Eberle had the satisfaction of finding that fibrin, coagulated albumen, casein, &c. were in a short time completely chymified; substances which he had hitherto failed in affecting by any of the artificial mixtures containing the acids of the stomach. In fine, this mucus is the substance which we have already described as being poured out by the vertical tubes of which the mucous membrane consists, and it is to the organic principle which it contains that the acid secretion owes its solvent powers. The failure in former experiments was due to the non-existence in the artificially formed fluids of the organic principle derived from this mucus. Schwann, who has performed a very complete series of experiments on artificial digestion, gives to this principle the name of *Pepsin*.

A fluid possessing similar powers to that just described may be easily made by infusing in distilled water a portion of rennet, (fourth stomach of the calf) previously well washed, and adding some muriatic acid. I find that the following proportions answer extremely well; six grains of rennet carefully washed till all acid reaction has ceased, two drams of distilled water, and six drops of muriatic acid. The following experiment, which I have several times repeated and shown, will serve as an illustration of the powers of this liquid. Two drachms of the fluid, prepared according to the formula above given, were put into a test tube, and small pieces of raw beef and mutton, together with a portion of boiled white of egg, cut in a cubic form, were immersed in it. Into a second test tube two drams of distilled water, three drops of muriatic and three drops of acetic acid, and pieces of the same alimentary substances, were put; and in a third tube the pieces of meat and albumen were immersed in two drams of distilled water, to which were added six drops of muriatic acid. The three tubes were kept for twelve hours at a temperature of 100° Fahr., and at the end of that time the following were the changes noticed in the albumen and meat. In the first test tube the albumen was reduced to a complete pulp; the meat was similarly softened, so that all appearance of its proper texture had completely vanished, and it broke down under the slightest pressure. The rennet also was completely disintegrated. In the second tube the cube of albumen had acquired at the edges a beautiful transparency, and here it had become almost of a fluid consistency: it was also very much softened in the centre. The meat was greatly softened, as in the first tube, gelatinized on its surface, and the rennet was reduced to a pulp. In the third tube no change had taken place beyond that which was evidently the result of the imbibition of fluid by the portions of meat and albumen.

The digestive fluid may be prepared by infusing the rennet in distilled water and muriatic acid, in the proportions already stated, at a temperature of 100°, for twelve hours: it must then be strained, and set aside for use. A clear straw-coloured fluid is thus obtained, exhibiting a decided acid reaction, with an agreeable smell, and not unpleasant flavour. This fluid will keep for a considerable period. I have some now by me which has kept unchanged for twelve months, and which shows no disposition to change. The digestive power of this liquid is destroyed if it be subjected to boiling, and likewise if it be neutralized by the addition of alkali, but it recovers its power again if the acid be restored. I am not without hope that it may be found useful as a therapeutic agent, in assisting the chymifying powers of the stomach, but my experience of its effects has been too limited to enable me to speak with confidence on this point.

Time warns me that I must content myself with this brief allusion to the observations of modern physiologists, which, as it appears to me, lead to the conclusion that the great agent of stomach-digestion

is the secretion which, under the influence of appropriate stimuli, is poured out from every point of the mucous membrane of the physiological stomach.

ON SIPHILIS.

By Herbert Mayo, F.R.S.
Senior Surgeon to Middlesex Hospital.

[Continued from page 385.]

[*For the London Medical Gazette.*]

Progress and treatment of the ulcerative form of secondary siphilis — Cases exemplifying ulcerative psoriasis, lepra, tubercle, ecthyma, rupia.

Ulcerative cutaneous disease constitutes the most formidable, but happily the least frequent, variety of secondary siphilis.

The complaint usually declares itself in a few weeks after the appearance of the primary sore. It is sometimes ushered in by pains in the back, and shoulders, and limbs; but the eruption with which it commences is partial, and seems insignificant; often amounting to no more than an incrusted patch upon the head, or a few leprous spots, or one or two patches of rupia on the shoulders, or three or four phlyzacious pustules on the legs. The throat is liable to be simultaneously attacked, when ulceration either of the tonsils or pharynx manifests itself, which for a time appears the more serious affection. It rarely, indeed, happens that the two progress with equal virulence. The latter, as will subsequently be considered, is liable to remain the principal malady. But if, in the other case, the skin disease advances, the ulceration of the throat is found to give way to the remedies employed, and commonly does not reappear, the subsequent attacks of sore throat throughout the malady being limited to excoriation.

The present form of constitutional siphilis differs from the scaly and the lichenous, especially in this, that after the first outbreak has taken place, instead of being mitigated, it is for a period either steadily progressive or after each remission it returns with increased virulence. Yet there are not wanting cases that display a comparatively mild character throughout; in which, for instance, no symptoms may be present beyond partial ulceration of the eyelids, or in which two or three ulcers on the body and limbs alone occur, leaving the patient after the lapse of a few mouths or a year, not worse in constitution and not disfigured. With these milder forms, however, there are liable to be combined iritis, and nodes upon the bones, which in the worst cases seldom supervene.

But in the worst cases, if exempt from these, the remaining features are tremendous. The head covered with painful encrusted ulcers; the eyebrows ulcerated, and partially or wholly destroyed; the soft parts of the nose eaten away, or falling in from ulceration of the cartilaginous septum; the spongy bones necrosed; the palate carious; the tonsils and tongue swollen and excoriated; the gums spongy and sore; ptyalism present, with horrible fœtor of the breath; the ears tumefied and raw; phagedænic ulcers on the body and limbs, with sympathetic contraction of the joints. Such ravages are liable to take place in the natural course of the disease; but their heightened and most frightful character is only seen when the effects of mercury, in aggravating every symptom, and inducing general caries of the bones, are superadded.

As the habitudes of the disease are changed in this variety, so should be the principles of treatment. No good is here to be obtained by giving way to the disease; its manifestations, on the contrary, should be from the first repressed by every available means.

The remedy principally to be relied on is the iodide of potassium, which commonly requires to be administered in doses of a scruple three times a day; but it is proper to begin with smaller doses, giving at first five or seven grains only, and gradually increasing the quantity, which may thus be raised to half a drachm, with half a grain to a grain and a half of iodine in combination. I have not had occasion to go beyond this dose, and have in most cases found all the good to be obtained from the remedy obtainable by less. Sometimes it will appear prudent to continue the use of the iodide in scruple doses three times a day for two or three months at a time; when it happens that, although fresh ulcers are continually breaking out, while the first are

healing, yet on the whole the patient's strength and general condition are progressively improving under the treatment. In other cases the influence of the iodide is temporary only, and to reacquire efficiency it must be disused for a fortnight or longer, and this frequently. Change of air is often highly beneficial in ulcerative siphilis; but least so at its most virulent period. It tells most when the complaint is on the turn, or when it exists in a less aggravated form. Opium is beneficial, first by calming pain, and giving sleep; secondly, by preventing the iodide of potassium from disordering the system. Stimulants, as it will be supposed, are often necessary; wine or brandy, with the most nutritious food the stomach will bear. Mercury in general does so much harm in ulcerative siphilis that one is unwilling to admit it in the list of remedies. Nevertheless, when the health is unbroken, and mercury is new to the constitution, either at the beginning or in the progress of the disease a brief course of mercury is occasionally serviceable; sometimes it may be advantageously combined with the exhibition of the iodide. In mild cases, as in siphilitic ulceration of the eyelids alone, mercury is found to be as efficient as the iodide; but it only removes the symptoms, and the iodide will do the same equally quickly, and with more safety to the patient's constitution. The local treatment of ulceration of the throat will be adverted to afterwards, but something has here to be said of the local management of the cutaneous sores.

The two best applications are the unguentum plumbi cum cretâ, and strong aqueous solutions of opium. Mercurial applications commonly cause pain, but occasionally lime-water and calomel, lime-water and corrosive sublimate, the white precipitate ointment, and even mercurial fumigation, prove beneficial. Washing the sores with a solution of nitrate of silver always does temporary good, but the practice is objectionable on account of the pain it gives.

I have now to illustrate the features and treatment of ulcerative lues by the detail of cases; and I shall first take occasion to advert to those instances in which the forms of the disease already treated of approach the present.

It has been observed that lepra is transitional between the scaly and the ulcerative varieties of secondary siphilis; that scattered spots of psoriasis will occasionally lead to superficial ulcers; and that clustered psoriasis will sometimes originate spreading ulceration. Among the out-patients of the Middlesex Hospital is one of the name of John Robinson, who presents the most aggravated instance of clustered psoriasis that I have witnessed. He has been under my care four years, with this history:—He assures me that, to his knowledge, he has had no disease of the genital organs for the last ten years; that then he had an ulcer, and went through a course of mercury; that he continued in perfect health for from four to five years, when he was attacked with pains, and an eruption on the skin, and sore throat, for which he underwent treatment. When he came under my care, four years ago, he had clustered psoriasis on the forehead, head, back, and loins, with considerable ulceration upon the back. He took the iodide of potassium for a long time, and recovered; he has had repeated relapses since, but the eruption has not since gone to the extent of ulcerating. When the disease returns, which it commonly does within a month after its remission, he recommences the iodide, and gets well again; he is now just emerging from an attack. I have tried mercury in this case, both alone and in conjunction with the iodide, but it does not disperse the eruption more quickly, and it weakens him. He is otherwise in perfect health and strength. In time it is evident that, with the assistance of the iodide, he will wear out the disease, and retain an unbroken constitution, which, if mercurial treatment had been pursued, would long ago have sunk under it. The next case in inveteracy that I remember, of clustered psoriasis going on to ulceration, took place in a remarkably athletic middle-aged man, and followed indurated chancre, which healed under not less than a two months' course of mercury. The psoriasis appeared before the mercurial course had terminated. The course, however, was begun late; the sore had existed from a fortnight to three weeks when the patient came under my care.

Of lepra, it has been mentioned that the greater number of cases may be prevented passing into ulceration; and in the passages extracted from Willan

and Carmichael, mercury was the remedy spoken of as capable and necessary to arrest its progress. The latter observation does not accord with my own experience; in siphilitic lepra I have found the iodide of potassium much more efficacious than mercury, and have seen the ulcerative form assumed by the complaint during the use of mercury, after which its progress has been stopped by the iodide. However, there are natural differences in the tendencies of siphilitic lepra that deserve attention. Certain cases are more disposed to go into ulceration than others. When the blotch enlarges quickly, leaving the centre where it began pale and without scales, and the spreading edge is not much elevated or thickened, there is less likelihood of virulent ulceration; and the ulceration, if it occur, will probably be superficial only, like that of psoriasis. It is when the skin is thickened and tuberculous, and the patch enlarges slowly, and is covered with some thickness of cuticular scale, that ulceration is most threatened, and that mercury should be abstained from, and the iodide given in its stead.

The following case exemplifies the most virulent lepra:—

John O'Shaughnessy, in the autumn of 1828, had a primary ulcer and bubo, for which he took mercury. Before long leprous eruption and ulceration of the throat followed. He was admitted into Middlesex Hospital, in January 1830, with several large leprous spots on his limbs and body; a large ulcer on the instep, another on the shoulder. He took liq. potassæ, with sarsaparilla, and the ulcer on the instep healed. But lepra broke out universally. The patches became covered with a great thickness of papery scales, the skin beneath which felt thickened: the scales became a crust, and falling off disclosed an ulcer. There were many of these ulcers on the limbs and body; the forehead and face were covered with them. The lips, the alæ of the nose, the eyebrows, were equally involved in ulcerated blotches. The patient suffered from burning heat of the body and face, and the ulceration of the lips produced ptyalism. The bones were not affected, but there was pain on moving the joints of the legs, and a small depôt of serous matter formed in the right calf. Every remedy was now tried in succession, and all did temporary but very transient good, except nitric acid with bark, and mercury: these medicines made him worse. Having had him under my care a year, and the disease being unsubdued, I then ordered (Dec. 1830) at M. Magendie's suggestion, who happened to see the patient, a sixth of a grain of iodine, with ten grains of the iodide of potassium, three times a day. The good effects of the remedy were apparent after a few days: the skin became less red and heated, several of the crusts separated, and the ulcers put on a healthy appearance. In a month the patient had made a great amendment. But now the amendment ceased. The iodide was therefore discontinued; upon which the patient became worse. After a fortnight he resumed the medicine, with the same advantage as on first taking it. In a month the disease became again stationary. He then discontinued the iodide, to resume its use in a fortnight. By these means in five months he recovered his strength and health; but a few blotches would occasionally appear, upon which he again had recourse to the iodide. Afterwards a very severe relapse took place, of which he was cured in the Lock by the same medicines. When I last saw him he had been quite well for some years.

Ulcerative tubercle, again, exhibits very different degrees of virulence. In one case under my care, occurring in a man sixty years of age, in which the disease followed primary phagadænic ulcer, and was attended with iritis, the ulcers that formed in the tubercles were shallow, and soon healed. In another case, which occurred in a gentleman towards fifty, whose constitution had been tried in India, the primary sore for which I attended him being phagedænic, a few cutaneous tubercles formed, which became shallow indolent ulcers, and were subordinate to painful glandular swellings, which slowly arose in the neck and in the groin: each of these in succession came forward and opened, and for several months continued a deep foul indolent ulcer. They all, however, gradually dried up under the interrupted use of the iodide of potassium.

The following cases exemplify some more common varieties of tubercular ulceration:—

Henry Morrison, aged 39, subject to gleet for several years, in December, 1838, contracted a sore on the corona

glandis, for which he took three or four pills every day for two months. The mouth was only affected during the last week of the mercurial course; but he had numbness first of one finger, then of a second, and of the right side of the under-lip, following acute pain in it, and in the head. The two former after a while disappeared; the last symptom still remains. The ulcer healed in five weeks from the commencement of the mercurial course, but about the same time incrusted sores formed on the back of the head and sides of the face, and on the shoulders, and the throat became sore. He took sarsaparilla and other medicines, and became better, but relapsed, and finally, in June, came under my care as an out patient of Middlesex Hospital, with a large and painful ulcer on the calf of the right leg. He was ordered fifteen grains of the iodide of potassium three times a day, in decoction of sarsaparilla, and the dose on those days was increased to twenty-four grains. But it produced no salutary effect; the sore was as painful as before, and the integument of the nose became red, threw off thin scales, and threatened to ulcerate. He then took a twelfth of a grain of corrosive sublimate three times a day with temporary advantage; but becoming worse he was admitted into the hospital in July. The iodide was then resumed in the dose of four grains twice a day, increased after a week to eight, and the ulcer was dressed with Peruvian balsam ointment. It gradually healed, but his face became heated, the integuments of the nose red and cracked, and a disposition to ulcerate manifested itself on the chin. Corrosive sublimate was now very reasonably prescribed (not indeed by myself), and afterwards blue pill; but the disease was on the advance, and the patient thought it made worse by these remedies. He then tried decoction of sarsaparilla with liquor potassæ, then decoction of bark with nitric acid, then quinine with dilute sulphuric acid, with no advantage. The iodide was tried in small doses; but now, in the smallest, it produced the severest headache, and he became weaker, the nose having ulcerated, and incrusted spots forming on the cheek and lower part of the face; so all medicine was discontinued but occasional purgatives, and I allowed him full diet and porter. He became stronger, but the ulceration continued virulent, and extended itself. Then I tried the iodide again, with seven drops of laudanum to each dose, and giving at the same time active aperient medicine almost every night. Under this plan the patient improved considerably; the crust separated from the nose, the ulcer upon which is healthy, and healing rapidly; but some heat and crusted spots remained on the sore part of the face. Then the face became more heated again; the iodide has therefore been temporarily relinquished; the purgative is taken every night, and his face appears cooler and better.

John Saxon, aged 31, was admitted into the Middlesex Hospital in 1830, with secondary symptoms, which followed a venereal sore and a course of mercury. More than a year before, the integuments of the forehead became at two points puffy and tender, but not discoloured: these spots soon became red, and broke, and then for many months the face was disfigured in the following manner:—There were oblong narrow ulcers of an irregular outline on the forehead, eyebrows, and bridge of the nose; the skin around each was red and swollen, but soft; these ulcers spread, healing at one extremity, and extending at the opposite: in this way both his eyebrows were destroyed. Every remedy had been tried, and each for a few days with transient benefit. I then prescribed iodine and the iodide of potassum: amendment followed, which was rapid and uninterrupted, and the patient became perfectly well. He afterwards had a slight relapse, which was cured by the same means. I have seen him within the present year, and he has since been in perfect health.

W. Donovan, aged 38, admitted into the Middlesex Hospital October 11, 1836, eight weeks ago observed an ulcer upon the glans, for which he took seven pills, one each night; his gums became tender, and the ulcer healed. But he experienced general indisposition, and had pain in the back. Twelve days ago either a tubercle or pustule formed on the lower eyelid, giving rise to an ulcer, which has spread. He took one pill again at night for a week, beginning October 3: this brought back the tenderness of the gums, which, however, had remained spongy and tumefied. During that week his throat be-

came sore, and an ulcer formed at the orifice of the penis. At his admission the whole of the cutaneous aspect of the lower eyelid was occupied by a foul sloughy ulcer. There was a yellow excavated ulcer of the right tonsil, which was red and swollen: at the orifice of the penis there was a similar ulcer. The compound decoction of sarsaparilla with carbonate of soda was ordered, and Peruvian balsam applied to the eyelid. On the 15th, some amendment; seven grains of the iodide of potassium, in decoction of sarsaparilla, now prescribed three times a day: in two days more a considerable improvement had taken place. On the 21st, the ulcer of the eyelid was healing at the lower margin; the ulcer of the throat was well, and the ulcer of the urethra healing. On the 26th, the iodide, which had produced headache and gastric irritation, was discontinued. The patient left the hospital a fortnight afterwards, well; but the same form of disease afterwards returned: the patient was not then under my care.

Hannah Gregory, aged 42, towards Christmas 1837 contracted a venereal discharge, which lasted three months. Before it was well several spots appeared on her chest and neck, which she describes as having been red and elevated; their surface became crusted over, and they ulcerated; and the throat became sore, and new spots, similar to the first, appeared on the body and thighs, and on the forehead and face, which likewise crusted and ulcerated. She took pills and sarsaparilla, and in the course of two or three months all the sores, except some upon the face, had healed, when she was admitted into the hospital, and took sarsaparilla and mercurial pills for a month. She was something better, but erysipelas of the head and face supervened, which reduced her extremely, and she remained some time in the hospital for the recovery of her strength. On leaving it she went into the country for two months, and returned to London quite well, and continued so about three months. Soft tubercles leading to incrusted ulcers then reappeared, and after some months she became my patient, being readmitted in July 1839, with ulcers of the face, a large ulcer on the right thigh, and two upon the left. These ulcers were extremely painful, pricking, shooting, burning. She was ordered a scruple of the iodide of potassium three times a day, in decoction of sarsaparilla; this, subsequently increased by the addition of half a grain of iodine to each dose, she has taken till the present time, with the exception of a fortnight in October. During this period her health and general appearance have improved, and all the sores, including several upon the face, body, arms, and legs, which have broken out while she has been in the hospital, have healed but one. The sores which have latterly broken out have begun by tubercular thickening and encrusting of some part of the edge of an old cicatrix.

W. Woodgate, aged 22, admitted into Middlesex Hospital Feb. 12, 1837. The preceding October an ulcer had formed at the side of the frænum, which was destroyed by it. The surgeon who attended him endeavoured for two months to heal the sore without mercury. Then the ulcer spreading, five-and-twenty grains of blue pill were given daily for three weeks, which produced salivation, and the ulcer healed. A fortnight, however, had barely elapsed before he observed a hardness about the spongy body, an inch from the orifice of the penis, and in a short time ulceration took place at the junction of the inner prepuce with the body of the penis, and matter was discharged from a cavity between the thickened integument and the spongy body. At his admission the gums were sore from the remaining effect of the former mercurial course, and a few pills he had taken the preceding week. One tonsil was superficially ulcerated, and on the top of his head was a crust of the size of a sixpence, covering an ulcer. The penis was extremely painful. A probe introduced between the thickened integument and spongy body passed into an ulcerated canal three inches in depth; this was laid open, and a large extent of sloughy surface exposed. A carrot poultice was ordered, with opium at night. Under this treatment the surface became clean, and granulated for the most part healthily. But after a few days at two parts the surface put on the phagedænic character; it was yellow, with red points shewing through it, and soft; the adjoining integument thickened, red, and angry. Feb. 28th, the phagedæa spreading, and having eaten a con-

siderable hole into the urethra, nitric acid was applied to the whole ulcerated surface; and the decoction of bark, with dilute nitric acid, ordered. The ulcer had a much healthier appearance on the superficial slough separating: Peruvian balsam was ordered to be applied to it, and on March 4th a scruple of the iodide of potassium, with a grain of iodine, to be taken daily in place of the bark. The ulcer now contracted rapidly, when, about the end of March, the medicine having been discontinued, the ulcer began at one part to put on anew the phagedænic character, and at the same time the ulcer of the throat, which had never quite healed, became more sore, and the ulcer of the scalp began to discharge and spread; and seven or eight soft tubercles formed on the thighs and legs, which ran into ulcers. April 8th, these symptoms increasing, the iodide was resumed with daily improvement; the ulcer on the penis became perfectly healthy; those on the legs were covered with pale granulations. April 22d, the ulcers on the leg and head again spread. The largest on the leg was of a pale grey, with maroon coloured spots shewing through it; the margin inclined to yellow, with a dusky red border of skin. I then determined to try mercury again, which, administered in the form of blue pill, and the ointment, produced considerable swelling of the mouth, with ptyalism. The action was kept up for three weeks, and the medicine then discontinued, leaving, however, for three weeks more, some impression on the mouth. In a few days from commencing the mercurial course great amendment took place, and he completely recovered.

The following case exemplifies ecthyma:—

Thomas Edwards, aged 17, admitted July 10th, 1827. He had had gonorrhœa six weeks, and a foul flat sore on the foreskin three weeks: on the legs there were a few large pustules. He was put upon mercury; other pustules appeared, but few in number, on his body and arms, and one on his forehead. The primary sore healed, but the pustules became painful ulcers, which, however, after a time began to granulate healthily, and healed. Mercury was then discontinued, after a course of two months' duration. Three weeks after discontinuing mercury the cicatrices began to burn at night; and two, one on the right instep, the other on the left ham, ulcerated anew. The ulcers were extremely painful; but he had rather gained flesh, and had no night sweats. Oct. 25th, ten grains of blue pill to be taken every night. 29th, the ulcers more painful; his joints stiff; a drachm of strong mercurial ointment every night; the pills omitted. Nov. 16th, he has grown fatter; the mercury has just begun to affect the gums, which remained slightly touched till Dec. 26th, when the mercury was discontinued. Before this several other cicatrices had ulcerated. The ulcer on the ham had elongated itself, and the middle part had healed; each end had a yellow phagedænic edge, against a raised border of angry integument. The ulcers are rather better after the application of nitrate of silver in substance, or solution, or of the yellow wash. Fumigation, the black wash, the Peruvian balsam, have done rather harm than good. Decoction of sarsaparilla, with the extract, ordered. Jan. 10th, ulcers still spreading. The forehead tender, and swollen at one part; painful node upon the tibia. Decoction of bark, with fifteen drops of muriatic acid, three times a day, ordered. 20th, great improvement; the ulcers have healed, the white precipitate ointment having been the local application. Feb. 18th, the nodes on the forehead and tibia are less, and without pain. There is an ulcer at the back of the pharynx; ordered to be touched with the linimentum æruginis. He soon after this went out nearly well.

The two following cases exemplify siphilitic rupia:—

Sarah Holloway, aged 24, in April 1837 had an ulcer of the labium, with discharge. She took two pills night and morning for a fortnight, and the gums were affected. The sore healed in three weeks from its first appearance. A fortnight afterwards she came to London, when her throat became sore, and continued so for six weeks, during part of which time she took medicine, and her mouth was again slightly affected. Three weeks after her recovery the sore throat returned, and continued several weeks. It was healed by being touched with lunar caustic. In August 1837 a crusted sore formed at the back of the head, and afterwards a

second; afterwards a sore formed upon the shoulder, and her throat became again ulcerated. She was admitted into the Middlesex Hospital in April, and remained four months. She had crusted ulcer on the hand at her admission, excavated ulcer of the tonsils, and a sore upon the shoulder. She at first took sarsaparilla with the iodide of potassium, became better, and then ceased to improve, when the oxymuriate of mercury was substituted for the iodide, but with no advantage: the former ulcers became more angry; rupia appeared in several patches in succession upon the arms and legs. Ultimately the iodide of potassium was resumed, and she became well. In January 1839 she was readmitted for five weeks with similar symptoms, from which she emerged on taking the iodide. In July she returned, and staid in again two months: at the commencement of this period corrosive sublimate was again tried, when she became worse; but on resuming the iodide, which she took in the dose of a scruple three times a day, she became well. She returned a few weeks ago with crusted ulcer of the head, and a node on the tibia; for this the iodide was again ordered, and when I last saw her she was improving.

Elizabeth Chilcott, aged 42, became an out-patient of the Middlesex Hospital during the winter before last; she had patches of rupia upon the shoulders and limbs, the greater part of her face was tuberculous and ulcerated, the ears were swollen and excoriated, and she was profusely salivated. Some months before she had had discharge and sores, and swelling in the groin, for which she had taken mercury. While her mouth was sore secondary symptoms had appeared; she had sore places on the head, and her throat was ulcerated she says. However, she became better. After an interval the symptoms, for which she again took mercury, became aggravated till they reached their present state. I ordered the iodide of potassium in decoction of sarsaparilla, which produced immediate improvement; and in from four to five months, during which the disease was occasionally stationary, or progressive even, for a few days at a time, she had recovered. All this time she took the iodide, which was increased to half-drachm doses three times a day, and latterly, for a short period, combined with an eighth of a grain of corrosive sublimate twice a day. She remained well for about four months. In the autumn her former symptoms reappeared. Mercury was again administered, and she fell into a state of disease more aggravated than before. She then reapplied to me, and was admitted into the hospital at Christmas 1838, with tuberculous ulcers of the face, and encrusted and open ulcers on her back and limbs, and the right turbinated bone necrosed. I drew away the dead portion of bone, and prescribed again for her the iodide of potassium. She improved, but temporarily only; and although the medicine was continued, the disease extended its ravages: her head and face were covered with encrusted ulcers; her back and abdomen, and her limbs, were covered with the same, or with open ulcers, and several fresh eruptions of rupia appeared every few days. Among the flat vesicles which became encrusted, full round bladders would form and break, and the surface appear excoriated, and then either go on to ulcerate, or scab and heal. Then other remedies were tried, bark with nitric acid, and the other antisiphilitic medicines, without effect. At night she took opium. The use of the iodide was then resumed, and steadily persevered in, the dose being continually increased. From May 18th to June 19th she took three times a day half a drachm of the iodide, with first a grain, then a grain and a half, of iodine. At this time she experienced pain in the head, and extreme giddiness; but she had become materially better, most of the ulcers had healed, few new vesicles now appeared, and she suffered considerably less pain. The iodide was now discontinued against her wish. She remained for a time nearly stationary, then fell back again. Corrosive sublimate in small doses having been given, she became worse. Then, in the latter end of August, I prescribed the iodide anew, in scruple doses; it had great efficacy, having been disused so long. She improved rapidly, and in October left the hospital nearly well. A month ago she returned with two or three small ulcers on the thigh and leg, that were angry and painful; but she resumed the iodide, and appears to be now all but well.

[To be continued.]

SMALL-POX AND VACCINATION.

To the Editor of the Medical Gazette.

Sir,

When a mistake was pointed out in the Vaccination Report several weeks ago, the chairman of the section at once acknowledged it in the most candid and unreserved manner, and immediately sent the printer instructions to cancel the paragraph, or to append an advertisement of its inaccuracy. To acknowledge an error and prevent its perpetration is all the reparation that can be offered in literary matters, and since errors are incidental to every one, it is all that is usually expected by persons of correct feelings and habits. But it would seem that the Vaccination Report and its authors are to be excepted from the ordinary rules of gentlemanly treatment. After the lapse of several weeks, your anonymous correspondent, Scrutator, brings up the subject again, and intimates in language not to be misunderstood, that the statement was not a mistake but a fraud, and that therefore to call it a mistake in the letter of acknowledgment was a falsehood. To make a charge, by direct implication, of lying and dishonesty shows that he is not scrupulous about taking the full license of his fancied concealment; but a man who is not restrained from such insinuations by the consideration that he writes anonymously, may be safely allowed to say what he pleases.

And now for the fresh charge of three additional mistakes. Scrutator says, "at page 35 they make a mistake of 7 patients in their enumeration, and at page 47 another mistake of 19, and again at page 65 there is a slight error in the return from Edinburgh." With respect to the last it is allowed that 557 has been printed for 556, which is certainly a mistake, but so trivial as scarcely to deserve an apology. With respect to the two former, the charge is as untrue as it is audacious. There is no mistake at all. Nothing but the most wilful dulness could have supposed so. It seems hardly worth the notice that at page 35 the 7 is manifestly only inserted as the difference between 15 and 22, and that at page 47 a moment's consideration would show that the 19 fatal cases are naturally enough included in the number of the severe cases. These, then, are what Scrutator calls specimens "of its numerous and palpable errors," specimens selected by Scrutator himself, and therefore valuable specimens, as indicating most convincingly that not all the malevolence, ingenuity, and industry of the assailants, can discover any thing which in the slightest degree impairs the authenticity of the Report.

The assertion that both sides of the question are not openly stated is untrue, since the greatest care was taken that no unfavourabe testimony should be suppressed. As an instance of this, I would refer to page 42 of the Report, where the number of deaths after vaccination reported to have occurred at the Small-Pox Hospital is inserted, although it would have been quite justifiable to have dismissed the Report as altogether unworthy of credence, as has been made manifest by Dr. Conolly in his last letter.

It is idle in the extreme to complain that the Report does not contain matters which it never professed to contain. It pretended to embrace nothing more than a selection of the most important topics connected with vaccination. It professed to give a faithful and condensed summary of the opinions, and principally the unpublished opinions, of British practitioners on these selected important topics. It openly declared at the outset that foreign and published documents should have but a secondary prominence assigned them. It would have been absurd to have put these, which lay within the reach of every one, on a level with the manuscript returns of the practice and experience of British practitioners collected for this especial purpose. It would have been scarcely less absurd to have attempted to consider all the questions connected with vaccination, since the Report then, instead of being one that would be read through in two or three hours, would have attained the inconvenient bulk of a huge Parliamentry folio. Very few, indeed, would ever have read it, had it admitted and examined one half of the juggling statistics, the visionary analogies, and the pretended discoveries extant. Every branch of medical science is pendent with *mares' nests*, and vaccination is as fruitful as any. It would therefore have been highly culpable to have buried the valuable information we had to communicate beneath the mass of undigested trumpery that some persons would have wished inserted.

But what is the cause of this series of

bitter attacks, this unexampled virulence, against the Report and the Reporters? Plainly this—that certain persons were chagrined that their crudities were not admitted and extolled, and that the introduction and enforcement of a few lucid principles demolished without an effort the ant-hills they had been industriously grubbing at for years. Look at Scrutator's annotations on Mr Goolden's statements, and the report of the Registrar-General, in his last letter, and you will perceive an instance of that kind of statistical legerdemain for which it would have pleased him to have had a prominent place allotted in the Report. It would be but pushing the absurdity a few steps farther, to multiply a peck of flour by a barrel of herrings, and divide the product by a sack of potatoes.

Now, hear Scrutator again: "It is quite time that the subject ceased to be a party question; it has been conducted on all sides from the first in a way quite unworthy the high character awarded to Englishmen for their candour and honesty in scientific research." I would ask if there ever has been any thing more unworthy than the tricks and insults which have been resorted to by the assailants of the Report, and if it is possible to carry the climax farther than in Scrutator's last letter. I rejoice that Dr. Conolly's taunt failed to bring out Scrutator from his dark corner into daylight, since the advantage he has taken of his obscure position has so clearly developed his genuine qualities, and it is rather amusing that a person should assume a disguise for the sake of making injurious representations, and not have the dexterity successfully to maintain it*.—I am, sir,

Your obedient servant,

HENRY COLES.

Cheltenham, Dec. 9, 1839.

PECULIAR DISPLACEMENT OF THE BONES OF THE FORE-ARM.

To the Editor of the Medical Gazette.

SIR,

Two years since you did me the honour to insert in the MEDICAL GAZETTE a communication on a displacement of the bones of the fore-arm in children, which I designated "undescribed." That short paper is very justly and candidly noticed in a small but interesting work entitled a "Retrospect of the Progress of Surgical Literature for the year 1838-9," by Messrs. Newnham, published at the request of the Provincial Medical Association; and the subject occupies a paragraph in the last number (No. 62, October 1839) of the Medico-Chirurgical Review, which for several reasons claims my notice, and I trust you will deem it sufficiently important to interest your readers. The paragraph in question is as follows:—

Partial Dislocation of the upper end of the Radius (?)

"We take leave to allude to a partial dislocation of the upper extremity of the radius, which was first recorded in the September number of the MEDICAL GAZETTE for the year 1837, by Mr. Gardner. We are desirous to refer to this accident, firstly from the belief that it is not generally recognized or understood; and secondly, that one of the reporters has long been familiar with it, and has been in the habit for many years of pointing it out to his pupils. It invariably occurs in *young* children, and is occasioned mostly by servants and others suddenly pulling the child by the hand, or so lifting it from the ground. After the occurrence of the accident the arm hangs uselessly by the side with the *hand prize*. Mr. Gardner has given a clear account of this lesion, both as to the manner in which it takes place and the subsequent appearance of the limb, but whether he be correct in stating it to consist in the tubercle of the radius slipping over the edge of the ulna, we think doubtful. All that we have found necessary for removing the displacement is simply to rotate the radius; and if, while this is done with one hand, the thumb of the other be firmly placed on the head of the bone, a slight crepitating jar will be felt; at the same time a noise is heard similar to that noticed in the reduction of other luxations. The after treatment consists in placing the arm in a sling for a few days, and applying a roller kept moist with an evaporating lotion around the elbow-joint."

Upon this quotation the Medico-Chirurgical reviewer observes, "We are much inclined to think the reporter mistaken in his notion of the nature of the accident which he describes. The accident itself must be familiar to all surgeons. We have always looked on it as a separation of the head of the

* Erratum in my last letter.—In line the first, *for* "Report," *read* "Section."

radius from the remainder of the bone at the epiphytic junction. A very little reflection must show that dislocation at so early an age is exceedingly unlikely, particularly in the case of the head of the radius embraced in its strong orbicular ligament. But the epiphytic cartilage is very likely to give way."

If this passage was written by the surgeon-editor of the Medico-Chirurgical, as I presume it was, I feel confident that he will be gratified to see the errors it contains corrected. In the first place—Is the accident familiar to all surgeons?

On the publication of my paper in Sept. 1837, Mr. Guthrie called upon me, and professed himself unacquainted with the lesion in question, desiring me, should I meet with a case, to let him see it. About six weeks ago a child was brought to me said to have fractured its arm. The accident was occasioned by a violent drag on the wrist, when something was heard to crack. Upon a careful examination I ascertained the nature of the case, and purposed to take it to Mr. Guthrie, but recollecting that Mr. Hale Thompson, his colleague at the Westminster Hospital, resided near me, I took the child to him, and requested him to examine the state of the limb. After a full examination, during which the child was suffering great pain, Mr. Thompson declared that there was no dislocation, but that the ligaments of the wrist-joint were strained, perhaps ruptured. I then wished to show him the nature of the accident, and reduce the dislocation, but he refused to permit violence (as he said) to be used to an injured limb, in his house, recommended splints, bandages, cold lotions, &c. and the child was sent home in severe pain. On reaching home I reduced the displacement in a second, and wrote a note to Mr. Thompson. He visited the patient with me, and found the arm restored—perfectly well, in short, which the child expressed by flourishing the arm over his head, and exclaiming it was made well in a minute. Mr. Thompson, with that candour which ought to be the characteristic of a surgeon, admitted his error, and made a suitable explanation to the patient's friends.

Here, then, are two metropolitan hospital surgeons and teachers to whom the accident is not familiar, and now let me add to these the writer in the Medico-Chirurgical himself, whose subsequent remarks furnish most conclusive evidence that the accident is not familiar to him; if it were, he never would have suggested the hypothesis "of the separation of the head of the bone at the epiphytic junction," as the nature of the accident.

The child seen by Mr. Thompson is five years of age; this I mention as a comment on the word *young*, printed in italics in the "Retrospect," and because I think that this word, together with the last sentence in the quotation from that work, misled the Medico-Chirurgical Reviewer into his obviously erroneous opinion. When the reduction of the dislocation is effected the cure is so complete that no after treatment will be required. I have usually recommended it, as precautionary, but I have always found it neglected after an hour or two by the parents, and have never seen the neglect attended by any ill consequences. "The separation of the head of the radius from the remainder of the bone at the epiphytic junction," would be a far more serious accident.

But what, then, is the nature of the displacement in question? The reporters of the Retrospect speak of it only as a partial dislocation of the upper end of the radius, without expressing an opinion as to its mechanism, except that they regard my suggestion as doubtful. I confess I think no better of it myself. The simultaneous drag and twist upon the wrist, which causes the accident, may stretch the orbicular ligament, and bring the prominent edge of the head of the radius upon the protuberance of the os brachii, which forms the articulation, and on which the radius rotates. But how is it held there?

The accident is not of a very serious nature, and the only inconvenience which can result from a surgeon mistaking it, is pain to the patient of more or less duration; which, however, is the more protracted the more that care is used to keep the limb quiet, under the impression that it is a severe sprain.

I have seen a child's arm put up in a bandage and splint, with this displacement, unreduced for a whole day; and I, therefore, deem it worthy of every surgeon's attention.

Your obedient servant,

JOHN GARDNER.

49, Great Portland Street.

REMOVAL OF A TUMOR FROM THE ANTRUM.

To the Editor of the Medical Gazette.

Sir,

If you deem the following case worthy of insertion in your valuable journal, by giving it a place in your next publication, you will oblige.

Yours respectfully,

W. Quinton,
Surgeon.

Wolverhampton,
Nov. 20, 1839.

Emanuel Blake, ætat. 17, on the 20th of Oct. applied to me, stating that he had a large gumboil on the upper jaw, which for the previous three months had been very painful and troublesome, so much so that he could not masticate on that side. On examining his mouth I perceived a tumour protruding from the left antrum, rather firm, elastic, of the consistence and appearance of the gum, irregular on the surface, and about the size of a moderate hen's egg. Knowing the disease to be of a malignant character I stated to the lad the necessity of an operation, to which he acceeded; I then made arrangements for the same, and undertook the care of the boy at my house until he should perfectly recover.

Operation. — Nov. 4th. The boy sitting upon a chair and the last incisor tooth being extracted, I commenced by making an incision with a strong sharp pointed bistoury, extending from the external angular process of the frontal bone to the angle of the mouth; I then reflected the flaps upwards and downwards. This being done, the tumor was brought fully into view: with Liston's sharp-pointed bone nippers, taking the course of the extracted tooth, I cut up to the floor of the orbit, then crossing immediately below the orbital plate, and removing a portion of the malar bone, I extended the incision to near the zygomatic fossa; I then cut up in front of the last molar tooth to the before-mentioned cross incision, and the carotid artery being compressed by an assistant, I firmly grasped the detached portion of bone including the tumor, and I tore it down, the remaining attachments being divided by the knife. I carefully preserved the velum palati, and also the palatine plate of the palate bone. The loss of blood was not great, and not a single vessel required a ligature. An hour after the operation I placed a pledget of lint, dipped in olive oil, in the internal wound, and the external was then brought together by three interrupted sutures; he was next placed in bed; two hours afterwards an anodyne was given, and there being no hæmorrhage the wound between the several sutures was dressed with isinglass plaster. The lad was comfortable during the remainder of the day.

5th.—Slept well during the night, and complains very little of pain; skin natural; pulse 96; tongue clear, and able to take broth or gruel.

Ordered two grains of calomel, half a grain of tartarized antimony, and ten grains of compound jalap powder, immediately.

5 o'clock P. M.—Bowels not moved; skin rather hot; pulse 100.

Repeat the powder.

10 o'clock. — Complains of feeling rather sick; skin hot; tongue rather dry; pulse 93; the bowels having not yet operated.

Ordered six drachms of castor oil to be taken immediately; removed two of the sutures, and supplied their place with strips of plaster.

6th.—Skin natural; tongue rather furred; pulse 90; bowels evacuated three times during the night; complains of thirst; ordered the following draught.

Spirits of nitric æther half a drachm, of ipecacuanha wine 12 min., of camphor mixture one ounce, directly; to drink barley water or broth; removed the other suture at the angle of the mouth.

7th.—To my astonishment this morning the boy was dressed and sitting up, and requested my permission to go down stairs, to which of course I did not accede.

8th.—Going on well.

9th.—Going on well; removed the plasters, the external wound having completely healed by the first intention.

18th.—Perfectly recovered.

MEDICAL GAZETTE.

Friday, December 13, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

BURIAL IN CITIES.

MORE than two years have now elapsed since we directed the attention of the legislature to public hygiene, and discussed a number of those points where medicine, in its finer office—the art, namely, of preserving health—may claim the assistance of law. Among other topics we touched upon the question of burying in towns; and we observed how strange it was that the prohibition of this practice, though enforced by the Decemviri more than two thousand years ago, should now be utterly neglected*. Their prohibition, often quoted, and yet in this country not sufficiently so, is couched in the words *Hominem mortuum in urbe ne sepelito, neve urito.* Cicero, to whom we are indebted for the preservation of this law, thinks that the Decemvirs prohibited the burning of bodies within towns, for fear of setting fire to the houses. This is probable enough; yet it is also possible that these sage lawgivers were desirous that the health of the inhabitants should remain uninjured by the smoke of the pyre, as well as by the vapours of the burial-ground. Other countries have followed the Roman precept; but in this point England is the rear instead of the van of civilization; and in London, particularly, health and decency are alike shocked by the manner in which the burial of the dead is conducted. We are glad, therefore, to find that a practitioner of physic has written a treatise in which he endeavours to awaken the public to those horrors to which habit has made them almost callous*. We approve of Mr. Walker's design, and think that he has hit upon a capital subject for a book; yet, if we might venture to hint at a fault, we would suggest that he has made it rather too big a one. Two hundred and fifty-eight octavo pages are not, indeed, too many for a literary man of leisure to read, on so large a theme as the ancient and modern modes of burial; yet they are rather too many for a treatise on a practical point, intended to come home to every man's bosom. This object need not have excluded historical illustration, provided it was not so abundant as to overlay the main subject; just as the swords of Harmodius and Aristogiton were not the less sharp for being wreathed with myrtles. There is so much about the methods of interment adopted by the ancients, that a conscientious reader of the old school, who begins at page one, and wends his way regularly onwards, might find his interest in the subject blunted before he came to the strange doings at Enon Chapel, and St. Clement's Churchyard. Perhaps, however, this savours of hypercriticism; for the walls which hedge round a great abuse will not always fall at a single blast of the trumpet, and may require troops of every kind to be brought against them—heavy-armed makers of stout volumes, as well as light skirmishing pamphleteers. Still, we think that if this subject should excite the attention which it deserves, Mr. Walker will find it for his interest to come out in a slenderer shape, with more of modern London and less of antiquity†. Nor do we agree with him

* MED. GAZETTE, vol. xx. p. 402.

* Gatherings from Grave Yards, particularly those of London; with a concise History of the modes of Interment among different Nations, from the earliest periods; and a detail of dangerous and fatal Results produced by the unwise and revolting custom of inhuming the Dead in the midst of the Living. By G. A. Walker, Surgeon.

† To shew that we do not dislike the decorations which Mr. Walker has occasionally bestowed on his theme, we will give two of the epitaphs he

when he censures the "morbid sensibility that descants so feelingly *on transmarine objects of compassion*," as if those eyes that can spy out misery at a distance, were, like optical instruments, unable to take in the suffering which is next them.

We should join heart and hand with the author in criticizing the spurious philanthropy of "the wealthy and influential," if we believed that the same persons who are eager to improve Africa were careless about wretchedness in St. Giles's. But this we do not believe; on the contrary, we are sure that though charity may rove "from Indus to the Pole" in search of its fields of victory, it commonly begins its inquiries at home; and a vigorous appeal in favour of indigenous poverty is seldom or never crushed by the answer that we must first attend to the Bight of Benin. But, in good truth, the object which we, in common with Mr. Walker, are desirous of seeing accomplished, does not require any exalted virtue, or any curious balancing of opposite sacrifices; the question is not whether we ought to exert ourselves most to civilize the Hottentots, or whitewash the Rookery, but whether it would not be expedient to obtain an act of Parliament to abate a horrid nuisance. Like the establishment of railroads, or the reduction of postage, it is a simple appeal to the good sense of the age, and when strongly put, will be irresistible. Surely the author is killing giants of his own making when he exclaims, "If instead of directing the eleemosynary contributions of the middle and lower classes, and the liberal donations of the rich, into foreign channels of usefulness, it were the fashion to irrigate our own soil with that stream, 'that quality of mercy that blesseth him that gives, and him that takes,' how happy might we not be, how contented our poor," &c. Who opposes charity to the poor at home, or damns it with faint praise? "Why," Mr. W. might reply, "the Malthusians." True, but then we do not hear of their having much "spurious philanthropy" in behalf of people abroad, so that they are not a case in point. It is certainly difficult to please every one. Last spring we had to contend with a Sheffield physician, who would have it that the poor were killed with kindness, and who thought with Mrs. Malaprop that nothing was so conciliating as a little severity; while the author now before us talks as if guineas for the relief of English misery could scarcely be squeezed out of English hands!

But let us hasten to the topic more immediately before us.

Burying is probably the most ancient of all ways of disposing of the dead; yet in the oldest authors, sacred and profane, two other methods are mentioned. The physicians embalmed Joseph; and when the Grecian army is ravaged by a pestilence, in the first book of the Iliad, Homer's expression is, that the pyres of the dead frequently blazed. In the early ages of Christianity it was unusual to bury in churches, for it was a privilege reserved for saints and martyrs. Yet we may easily conceive that it would not be long before the rich and great partook of the distinction which had been intended only for the eminently good. This must have had a doubly bad effect: first of all, it contaminated the air which the worshippers were destined to inhale; and secondly, the pernicious practice of burying in the cemetery, without the church, indeed, but within the town, became justified by comparison. It was a minor offence against public health, which could

has collected; they are both exceedingly elegant, especially the first.

Simon Pierre, vir pius et probus, hic sub dio sepeliri voluit, ne mortuus cuiquam noceret, qui vivus omnibus profuerat.

Philippus Verbeyen, medicinæ doctor et professor, partem sui materialem hic in cœmeterio condi voluit, ne templum dehonestaret, aut nocivis halitibus inficeret.

scarcely be put down while the greater one was tolerated. The custom of burying in churches was constantly prohibited by general Councils, and as constantly practised; for these perpetual confirmations of the law were mere proofs of its unceasing infringement. Mr. Walker gives an ordinance of the Archbishop of Toulouse, issued about the middle of the last century, in which he complains that "cemeteries, instead of being beyond our walls, are among our habitations, and spread a fetid odour even into the neighbouring houses. The very churches have become cemeteries." The ordinance ended by forbidding interment in the city of Toulouse, and this prohibition was confirmed the next year by the Parliament and the King.

In 1765, the Parliament of Paris enacted that all the cemeteries and churchyards in Paris should be closed, and remain so for five years or longer; and that eight burying grounds should be established at some distance from the suburbs. In 1777, M. Lenoir projected clearing out the cemetery of the Innocents, and removing the human remains found there, into the catacombs, or quarries, under the southern part of Paris. This was not done, however, till about ten years afterwards. On a visit to Paris in 1819, we went down into this singular repository, as it was then customary to do, but of late years admission has been difficult, or next to impossible. The national assembly ordered all towns and villages to discontinue the use of their old cemeteries, and form new ones at a distance from their dwelling-places; and we believe that this law is really observed, so that we may say, with Sterne, "they manage these things better in France."

What are the effects of burying in towns? They are twofold. The first are those which are sometimes instantaneously produced upon grave-diggers or others by the poisonous vapours from the graves; the second effect is the deterioration of the air of cities by the same vapours, and is felt most strongly in the neighbourhood of churchyards. It might be thought, at first sight, that the former result would be as likely in a country as in a town cemetery: but it is not so in reality; for on account of the crowded state of metropolitan burying grounds, it is necessary to open graves before decomposition has been completed; before, in fact, the relics of the frame have been reabsorbed into their native earth. Hence arise a number of fatal accidents in all countries, some of which are narrated by Mr. Walker. Thus at Montpelier, in 1744, a man was buried in one of the common graves of the parish church of Nôtre Dame. A street porter, named Peter Balsagette, was employed as grave-digger; as soon as he had descended into the grave, he was convulsed, and fell down motionless. The attempt to draw out his body proved fatal to two other persons; and another, who recovered with difficulty, after bleeding and cordials, got the name of the *resuscitated*. Dr. Haguenot, who relates the case, was commissioned to inquire into the nature and qualities of the vapour. He caused the grave to be reopened, and found that the vapour extinguished lighted paper, killed cats and dogs, and gave a cadaverous smell to linen, and even to glass bottles; and it had the same effect after having been preserved in bottles for six weeks. This was, no doubt, sulphuretted hydrogen gas, though mingled, probably, with other products of decomposition.

When Casper Hauser passed by a churchyard near Nuremberg, he was seized with an ague fit, though his companion could not perceive the smell at all. Mr. Walker does not state his

authority for this anecdote, but it seems to us credible enough. Convulsions were excited in the Montpelier gravedigger by a mephitic blast; and in Casper Hauser's singularly delicate frame, by a diluted draught of the same poison. In London this identical poison is inflicted upon us daily, and we have scarcely yet learned to murmur at it!

WORKING OF THE ANATOMY BILL.

Nothing can be more lamentable than the state of the anatomical schools in London: they have declined each successive year since the "Inspector" was intrusted with the care of arranging the supply, and during the present season the dearth has been quite lamentable. We are informed that the matter is now under "serious consideration" at the Home Office. But there is a great difficulty in the way. Dr. Somerville is the protegé of Mr. Warburton, and Mr. Warburton's vote at the present moment is essential to the Minister. This is a very "serious consideration," and one which has hitherto interfered, and we fear will still continue to interfere, with the speedy arrangement of this really important bùsiness.

The profession certainly are much beholden to Mr. Warburton in this matter, as well as in the cause of medical reform;—his Committee and his witnesses, and his evidence—the almost interminable sittings, the host of those examined, and the piles of foolscap which resulted—much, to be sure, they have produced! Yet ridiculous as this mountain in labour has been, it is neither more nor less than we expected, and we claim to be the only journalists who from first to last took precisely that view of Mr. Warburton's exertions which the result has proved to be the correct one. From the Anatomical Bill, indeed, we did hope for something better; but even here it has been contrived, by pertinaciously retaining an inefficient officer, to nullify the benefits which must otherwise have resulted.

ST. BARTHOLOMEW'S HOSPITAL.

Painful Cicatrix with Exostosis of the Metatarsal Bone of the great Toe.

Sept. 1839.—Mr. Stanley removed the great toe with its metatarsal bone, from a man aged 30, for a disease of which the following is a brief history. Three years ago while working on a railroad he received an injury by which all the toes except the great toe were torn away from the left foot, and the soft parts on the inner side of the right foot were severely lacerated. Part of the cicatrix which remained after the healing of the laceration of the right foot, was seated immediately beneath the head of the metatarsal bone of the great toe, so that it was constantly exposed to the chief pressure in walking. The consequence was, that an ulcer formed upon the cicatrix, and though often healed and apparently soundly, it as often broke out again when he endeavoured to take exercise. After several such alternations of healing and returns of the ulceration, the parts had become so excessively tender that even when the sore was cicatrized he was unable to bear any pressure upon the foot. The parts around the cicatrix also enlarged; the swelling extending towards the sole, and appearing to proceed chiefly from the head of the metatarsal bone of the great toe. After remaining for a considerable time in the hospital without any prospect of being by any other means relieved from the pain of the cicatrix, and the constant liability to fresh ulceration, the man consented to the removal of the toe and its metatarsal bone. The operation was accordingly performed, the incisions being so directed that the cicatrix that would follow might be placed as much as possible towards the upper surface of the foot, where it would receive the least pressure in walking. The wound healed soundly, and the man a short time after left the hospital walking, well and firmly, and without any prospect of future inconvenience.

On examining the parts after their removal, the chief bulk of the swelling was found to consist of a growth of osseous matter, of a firm cancellous texture, from the distal head of the metatarsal bone, just below and to the inner side of its articulating surface. The surface of the osseous

growth was expanded, flattened and rough; the surface of the adjacent part of the bone was also irregular, and the soft tissues including the painful cicatrix which was situated directly beneath the exostosis were firmly adherent to it. The cartilage was removed from the articular surface of the metatarsal bone, and the phalanx of the toe had been thrust upwards by the tumor, so that it was nearly dislocated, and its axis formed nearly a right angle with that of the metatarsal bone.

Unusual Arrangement of Parts observed in the Dissecting Rooms.

1. The left subclavian artery, in the body of a male subject, passes in front of the scalenus anticus muscle. The right subclavian has its usual relations, and each gives off its usual branches; but the right vertebral artery is considerably smaller than the left. The other main arteries have their usual arrangement.

2. In a female subject the right vertebral artery is given off from the right carotid, which is the first great artery that arises from the arch of the aorta. Next to it arises the left carotid, which is so near to it that they almost appear to have a common origin. Next to the left carotid arises the left subclavian artery, which pursues its usual course and gives off its usual branches; and behind, and a little to the left of it, arises the right subclavian, which coming off from the back of the arch of the aorta, passes to the right and upwards, crossing behind the œsophagus towards the first rib, over which it passes behind the scalenus anticus, giving off in its way all its usual branches except the vertebral, which is supplied by the right common carotid. This right vertebral is smaller than the left; it is given off by the carotid rather more than an inch from its origin, and like the left, passes into the foramen of the transverse process of the sixth cervical vertebra.

3. In the same subject there is a peculiar arrangement of the tendons about the shoulder-joints. On each side the long tendon of the biceps flexor cubiti divides, just below the level of the tuberosities of the humerous, into two portions, of which one, the smaller, is attached to the bottom of the bicipital groove between the tuberosities, and the other, the larger, passes over the joint on the outside of the capsular ligament, to be attached to the upper edge of the glenoid cavity. The tendon of the pectoralis minor on each side, instead of being attached to the coracoid process, divides into two portions, which pass through an aperture in the coraco-acromial ligament, and of which one is lost on the upper and outer part of the fibrous capsule of the joint, near its attachment to the neck of the humerus, while the fibres of the other are continued to the upper margin of the glenoid cavity.

4. The arrangement of the tendons of the bicipites, in this case, is similar to that described by Mr. Stanley, in the lectures at the College of Surgeons, in which he shewed that this is a permanent condition of that structure, which is normal in the early embryo. It is probable that in many of those cases in which the tendon of the biceps appears to be attached to the bicipital groove, and which are commonly supposed to be the consequence of a rupture of that tendon, it really passes in a thin band over the outside of the joint to its usual attachment, on the edge of the glenoid cavity. Such cases are of course to be regarded as original malformations, rather than as the results of injury or disease, of which they rarely present any coincident effect.

Perforating Ulcer of the Stomach.

Nov. 22d.—The man who was the subject of this disease walked up to London a fortnight ago, from a distance of two hundred miles, and had since that time been engaged in very laborious work, without any apparent inconvenience. He was extremely robust and active, and was not habitually intemperate. Last evening, at 9 o'clock, he was suddenly seized with the most acute pain in the abdomen, which was most intense around the umbilicus, and was somewhat increased by pressure. A respectable surgeon, who was immediately called in, administered some aperient medicines and other means, but the patient continued to sink rapidly during the night, and died at ten o'clock this morning, as he was being carried into one of the wards.

At the post-mortem examination, the abdominal cavity was found to contain a considerable quantity of air, and about two quarts of dirty yellowish fluid, with castor-oil floating on its surface. The intestines were streaked with red, and very vascular on their peritoneal surfaces, and their walls were slightly adherent together by soft recently effused lymph. This peritonitis was found to have been caused by the effusion of the contents of the stomach through an ulcerated aperture in its walls. The ulcer was of an oval form, about half an inch in diameter, with sharp abrupt edges, as if it had been cut out. It was situated about an inch to the right of the œsophageal opening, just in front of the attachment of the gastro-hepatic omentum; the cellular tissue, for some distance around it, was thickened and brawny, and slightly puckered, like that of a cicatrix. There was another ulcer very near the preceding, of rather less size, but of the same

form and characters, which had also penetrated all the coats of the stomach, effusion being prevented only by the adhesion of its edges to the anterior surface of the pancreas. In every other respect the man's body presented the appearances of perfect and very robust health.

A case in many respects similar to this occurred in the course of the summer. A young woman who up to the moment of the commencement of her severe illness had considered herself in perfect health, and who was very robust and muscular, was suddenly seized while in bed with most acute pain in the abdomen, and other symptoms of severe peritonitis. Various means were employed without the least effect, and she was brought in a dying state to the hospital, where she soon expired, twenty hours from the first seizure. With all the appearances of acute peritonitis there were found two ulcers of the stomach, about half an inch wide, of a circular or oval form, with hard, sharp, and abrupt edges. One of them had completely perforated all the membranes of the stomach, and had permitted the escape of its contents through a wide aperture: the other had also penetrated all the membranes, but it was closed behind by its adhesion to the pancreas. Both these ulcers were situated near to the œsophageal opening, and the tissues around them were thickened and dense.

Cases similar to these are recorded by Dr. Abercrombie, who particularly remarks on the singularity of their occurrence, in persons who appeared just previously to enjoy perfect health. They are also of some interest, from the suspicion which they may excite, as they did in both these cases, that the patients had died by some unfair means. Such a suspicion is at once removed by the post-mortem examination, which exhibits all the appearances not of an acute but of a chronic inflammation of the stomach, the tissues of which are found thickened and brawny, hard, and without any increase of vascularity. The abrupt even edges of the ulcers also are widely different from the softened ragged margins of those which are produced by any corrosive substance.

RECEIVED FOR REVIEW.

A Treatise on the Diseases of Infants, founded on recent Clinical Observations and Investigations in Pathological Anatomy, made at the Hospice des Enfans-trouvés; with a Dissertation on the Viability of the Child. By C. M. Billard; with Notes by Dr. Ollivier, of Angers. Translated from the 3d French edition, with an Appendix. By James Stewart, M.D. London, Churchill, pp. 620. 1839.

Elements of Surgery. By Robert Liston, Surgeon to the North London Hospital, &c. &c. Second edition, illustrated with Engravings and Woodcuts by Bagg. London, 1840. Longman.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Nov. 21.

Edmund John ap Ellis Eyton, Whitchurch, Salop.—Henry Waterman, Tenderden, Kent.—John Stanton, Warrington.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Dec.* 3, 1839.

Abscess	11	Heart, diseased	7
Age and Debility	200	Hooping Cough	61
Apoplexy	40	Inflammation	109
Asthma	63	Bowels & Stomach	15
Cancer	7	Brain	12
Childbirth	9	Lungs and Pleura	39
Consumption	236	Influenza	1
Constipation of the Bowels	2	Insanity	65
Convulsions	194	Jaundice	1
Croup	15	Liver, diseased	18
Dentition	66	Measles	85
Diabetes	1	Mortification	19
Diarrhœa	10	Paralysis	18
Dropsy	85	Rheumatism	5
Dropsy in the Brain	18	Small-pox	54
Dropsy in the Chest	9	Sore Throat & Quinsey	2
Epilepsy	2	Spasms	6
Erysipelas	4	Thrush	16
Fever	106	Tumor	2
Fever, Scarlet	37	Worms	1
Fever, Typhus	15	Unknown Causes	1897
Gout	4	Casualties	65
Hæmorrhage	2		

The great increase that appears in this week's bill arises from its being the last which can be included in the general or yearly bill, from which circumstance many of the parish clerks, who have neglected to make their returns in due order weekly, have now sent in their reports for the time omitted, with a view to their insertion in the general account.

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Nov.	THERMOMETER.	BAROMETER.
Thursday . 28	from 32 to 46	29·42 to 29·47
Friday . . 29	38 48	29·26 29·17
Saturday . 30	38 45	29·48 29·58
Dec.		
Sunday . . 1	28 34	29·62 29·69
Monday . . 2	29 43	29·74 29·84
Tuesday . . 3	31 41	29·84 29 80
Wednesday 4	25 36	29·75 29·79

Winds, S.E. and N.

Except the 4th, generally cloudy; rain fell on the 28th ult. and two following days, also on the 2d instant.

Rain fallen, 1 inch and ·8825 of an inch.

CHARLES HENRY ADAMS.

NOTICE.

We are very sorry, but we think M.G.B. scarcely suited to our pages.

WILSON & OGILVY, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, DECEMBER 20, 1839.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.
Surgeon to the St. Marylebone Infirmary.

MORTIFICATION.

Definition, Causes, Anatomical Characters, Symptoms, Diagnosis, Prognosis, Treatment, considered generally—Modification from particular causes—Cessation of the circulation from Inflammation from mechanical causes.

Definitions. — By *mortification* I understand, without any qualification, the complete extinction of vascular and nervous energy in the affected part.

Much confusion has arisen in consequence of the several terms and distinctions which have been applied to this state, and from the desire to apply the several terms to supposed peculiarities or stages in the disease. Thus between gangrene and sphacelus this distinction is sought to be drawn, that the former term should be applied when mortification affects only a limited extent of parts; the latter is applied to the total death of the whole, or of a part of a limb. Again, many able men, among them Thomson, hold that gangrene expresses the period when an inflamed part is not yet absolutely dead—where there is diminution but not extinction of vital power—where the blood still continues to circulate through the large vessels — where the nerves retain a part of their sensibility, and where the part is still susceptible of cure. By the term sphacelus they imply the complete death of the part—the blood has ceased to circulate—the sensibility has disappeared, and where nature and art are powerless to restore life to the part. In the one case, according to this mode of viewing the subject, the powers of life in a part are merely enfeebled; in the other they are irrecoverably extinguished. This is not the view of the subject I shall take: either life is or is not extinguished at the part; I know no middle state. If the powers of life be only enfeebled, the patient may be threatened with gangrene, but it does not exist; if they be completely extinguished, gangrene, sphacelus, and mortification, have occurred. I regard gangrene like sphacelus and mortification, as consummations of a fact—the extinction of life beyond recal.

Causes. — In considering the causes of mortification, I shall adopt the arrangement of Dr. Carswell, and shall shew that it may be produced by the cessation of the circulation in a part; by the violent operation of mechanical and chemical agents; by the deleterious influence of certain poisons. The nearest to this classification of causes is that of Hébréard; he considered the causes under four points of view: different phlegmasiæ, deleterious agents, the interruption of communication with the central organs, and anomalous causes. These distinctions may seem unnecessary to those who regard this state as a consequence of inflammation alone; but inflammation does not always precede mortification.

To which of these causes should we refer the case detailed by Langenbeck? Are the passions of the mind capable of developing this state, or is it some peculiar influence of the nervous system? He had performed some slight operation upon a man; the wound appeared perfectly healthy, promising a speedy cure, when suddenly it was attacked by mortification, and he died. He was perfectly well in the morning; gangrene was completely developed in the evening. The cause was

vainly sought until, after death, when they found under his pillow a letter from his father, imploring him to reject the operation if it were proposed to him, as it appeared that all upon whom it had been performed had died. The records of our profession contain many analogous cases.

Among the causes capable of producing a cessation of the circulation in a part are—inflammation, mechanical obstacles, and debility. Among the causes of mortification which result from the violent operation of mechanical, chemical, and physical agents, are—contusions and lacerations, intense heat, cold, mineral acids, caustic alkalies. Those capable of producing mortification by some deleterious influence are—the bites of certain venomous animals, the inoculation of substances resulting from animal decomposition and particular kinds of food. There are other cases of mortification which are not so easily explained—that of infants, described with so much precision by Van Swieten. It is probable that bad food, filth, a residence in a damp marshy situation, are active predisposing circumstances to this fearful disease, of which the gums and the cheeks are the most ordinary seat, and which is especially manifested in debilitated, scrofulous, or scorbutic children, particularly when just recovering from some serious disease. Habitual high living would appear now and then to predispose to the development of mortification; whether this be by gradually changing nutrition, by introducing into our organs heterogeneous or ill elaborated elements, I do not know. Such is the condition of brewers' porters in London, who drink large quantities of beer. Mr. Lawrence mentions a case where, in thirty-six hours, the inferior extremity has mortified, in consequence of a slight scratch, from the toe to the groin. La Peyronie mentions a case of dry gangrene, which appeared several times in a man who drank a good deal of wine; he got rid of it by substituting milk for wine. Schrader describes a case of "periodical gangrene," affecting the fingers, the toes, the nose, and the ears; it recurred every three months in a young woman of twenty-three. Cullerier and many other practitioners have often seen mortification of the penis, in scavengers more particularly. Many other strange cases might be referred to.

It is very difficult to explain the mode of action of the different causes we have enumerated, in producing gangrene, and to ascertain perfectly the different changes which successively occur in the functions, the organization of the solids, and the composition of the fluids, from the moment when an organ begins to feel one of these morbid states, up to that when life is completely extinguished. We know pretty well the succession of phenomena in cases produced by the ligature of large vessels, by strangulation, by intense cold, by violent inflammation from external causes; but we are almost completely ignorant in those cases where gangrene depends upon a deleterious cause, a general disease, a crisis, or an idiosyncracy; and it seems more to the interest of science to admit that much investigation is required on the subject, than to seek to override the difficulty by saying "that mortification is never established in a part without more or less intense inflammation." Such explanations do not appear likely to conduct to rational treatment, and in no way elucidate the question.

Anatomical Characters.

The great anatomical characters which are presented in mortification vary with the causes which have produced it, and the tissues it affects. Still there are certain general phenomena observable more or less in all, and to these I shall first call your attention. If we examine a mortified part, two general aspects are presented; either the tissues are soft, more or less infiltrated with fluids, more or less pulpy and broken down, or they are dried up, and more or less contracted and hardened; and these two different conditions have been distinguished into humid and dry gangrene. You must not, however, expect to find these distinctions always well marked, for between that point where the dry characters are best marked, and that where the opposite condition is best shewn, there are a great many intermediate states. You should, however, know that there are certain tolerably well-marked circumstances, under which the one and the other are pretty uniformly developed. Humid gangrene commonly succeeds to violent inflammation, during the existence of which a large quantity of serous, sanguinolent, or purulent fluid, has been disseminated through the tissues. When it affects parts which have been seriously concussed, and where there is much passive congestion of the part, it is usually humid; so also when it affects parts which are already the seat of œdema and anasarca. When it occurs in persons whose tissues are lax and serous; in cellular structures generally when lax, as in the eyelids, the scrotum, and so on, are much more liable than muscular, mucous, or vascular tissue, to become the seat of this form of gangrene. Those tissues which, though not much penetrated by fluids, are yet wanting in solidity, are often softened, friable, and more or less considerably tumefied. They are easily broken down between the fingers, are greyish or yellowish in colour, do not soon

become brown or black. When deeper seated, the tissues are more completely broken down, and they lose completely all trace of their previous organization. Humid gangrene generally furnishes a good deal of a greyish, sanious, infected fluid, very similar in smell to animal bodies in an advanced state of putrefaction.

Dry gangrene is rarely observed elsewhere than in the extremities, and then it is caused by inflammation of arteries, by debility, and by diseases of the arterial tunics. In these cases the fluids natural to the part are wanting. At first occasionally the parts look yellowish, but soon become black, horny, dried up, and mummified; in fact, they look charred, are hard, and sound solid upon percussion. The smell in these cases is very different to those we have been considering; it is, however, rather penetrating and garlick-like; sometimes it is mice-like. In such cases the nerves seem to resist long, and I have no doubt the very acute pain felt in these parts is owing to that circumstance.

The soft parts deprived of life become subject to physical laws and chemical affinities; they lose their natural temperature, and undergo decomposition, by which their colour and consistency are changed, and putrid gas is evolved, putrefaction having set in. We must not always look for this phenomenon, mortification may exist long without it; when the parts are without fluids, when air is excluded, when it is produced by cold, and also in that form termed *gangrena senilis*. Putrefaction in a part is the most certain sign of death; but it is not in this point of view alone that attention should be directed to it; without serious inconvenience we cannot lose sight of the danger resulting from the continued exhalation of putrid gases, which form a species of contagious atmosphere around the patient; nor of the consequences which are likely to follow the continued contact of putrid liquids and solids with parts still living. We must not, however, be precipitate in our judgment; mortification may be apparent while organic action is merely suspended. This state is very dangerous, but should be particularly distinguished from mortification, because the part may be restored. This state may succeed to severe contusion, intense cold, the ligature of large vascular trunks; but so long as putrefaction does not occur, a restoration may be hoped for.

The different tissues of the body affected with gangrene present certain characteristic differences in the course of the disease; thus serous tissues present brownish or blackish spots, very fetid in smell, very readily breaking down under pressure. There is another peculiarity very apparent when a serous tissue is affected: if the smallest slough find its way into the fluid secreted by these membranes, and sometimes collected in the cavities they form, an extreme fetor, with ammoniacal gas, is rapidly developed; and the quantity of gas is sometimes so great as strongly to distend the abdominal or thoracic parietes when the disease is seated there. Cartilaginous tissues exfoliate like bone, in thin, soft, greyish laminæ. Tendons resist much longer; we often see them glistening and unchanged in the midst of parts completely broken down. When exposed they gradually become dry, greyish, then brown, and seem to throw off particles from their surface. Under these there is frequently an appearance of granulation. When the smaller tendons are affected they sometimes break down altogether: the dura mater, when so situated, presents a greyish black surface; probably this arises from contact with the bones of the cranium. In mucous membranes the surface presents sometimes greyish, black, soft sloughs, sometimes a greyish pulp; but commonly the sloughs are at first white, then yellowish, grey, slaty, brownish, blackish, especially when acted upon by the air. Muscles do not at first much change, but preserve, when air is excluded, for a long time their reddish character; they afterwards become livid, blackish, and softened; their fibrous appearance, however, is long retained. The brain becomes soft, semi-fluid, greyish, or blackish pulpy matter, of a very offensive character. The lung becomes blackish, brownish, soft, broken down, and extremely fetid. Gangrene of the liver, the spleen, and the kidneys, is very rare. The tissue of the nerves and arteries is very resistant. In hospital gangrene of the arms and legs, we find the arteries beating, and intact in the midst of the gangrened mass; ultimately they break down, and hæmorrhage follows; but in many cases, indeed, in almost all cases, the arteries are obliterated when mortification is completely accomplished; and if amputation be performed near the point, no hæmorrhage takes place, because the arteries are blocked up by coagula of more or less density.

Symptoms.—We might readily suppose that mortification could not affect any considerable part of the surface or substance of the body, without being accompanied by more or less decided symptoms. If it succeed to intense inflammation, to strangulation from aponeurotic tissues, to the hard and frequent pulse, hot skin, general agitation and sleeplessness succeed, when mortification has set in, a sudden quiet, which is often thought very favourable. The pulse is slower and softer; thirst

is lessened; restlessness disappears, and sleep, or a tendency to it, is often observed. If it succeed to the introduction into the system of certain poisons, the symptoms vary with the constitution of the individual. If robust, there is fever, restlessness, hot dry skin, headache, violent and noisy delirium, dry tongue, intense thirst, all shewing a reaction in the system against the effect of the poison. The time during which this state of excitement continues is very variable, but usually until mortification is established. If, however, the subject be feeble, he is often suddenly broken down under the first effects of the poison, the reaction is short, and quickly followed by prostration. The skin becomes ashy or yellowish, its temperature is much lessened, the pulse is weak and frequent, respiration is troubled, the belly becomes tympanitic, the excretions very fetid; thirst, nausea, vomiting, hiccup, are developed, cold sweats follow, the urine becomes dark or blackish, the limbs are not easily moved, there is subsultus, livor of the face, dullness of the eyes, a silent delirium, all announcing a very decided depressing influence upon the nervous system, as well upon the other organs of the economy, and these symptoms often follow very rapidly upon reaction. So long as the mortification continues its onward course, those symptoms which accompanied its appearance continue; becoming, however, more aggravated as they are prolonged. But when it is arrested, the pulse is raised, the heat of skin returns, and the other functions shew a disposition to resume their natural condition. Still at this period the contact of matter undergoing putrid decomposition with the living tissue, is often a cause of real danger. So long as the mortification extends, this danger is scarcely felt, because the parts already mortified are in contact with parts about to become so, and the function of absorption is almost or altogether extinguished.

Diagnosis.—To diagnose gangrene, usually an easy matter, is not always exempt from difficulty. Insensibility of the skin, loss of heat, and a violet, brown, or black colour, are not always conclusive signs. Many diseases may present one or several of these characters without mortification. However, when there is a black or brown colour, loss of sensibility, diminished temperature, and no change produced under the pressure of the finger, it is pretty evident that circulation is suspended in the capillaries, that the blood is stagnant, and that profound atony has succeeded to violent inflammation. But the only pathognomonic signs are a shrivelling of the tissues, a complete loss of elasticity, and especially the more or less advanced state of decomposition. The depth to which the affection has penetrated is a second problem sometimes important to resolve; if the whole circumference of a limb be affected, if pain be no longer experienced, if pressure makes no impression, it is probable that mortification has spared no tissue of the part. When, by careful manipulation, on the contrary, we feel, at a certain depth, a vital and elastic resistance, and that pain is experienced by the patient, it is reasonable to believe that we may estimate the probable thickness of the sloughs. The knowledge of the cause of the disease, the duration of the symptoms which have accompanied it, throw much light on the diagnosis. In doubtful cases we may attain to certainty, by carefully making an incision through the slough. Indeed, we ought never to decide on performing serious operations, such as amputation, until we have thus ascertained the extent of the destruction.

Prognosis.—The dangers of mortification are always great, because, according to Francois, the proportion of cures to deaths is as $4\frac{1}{2}$ to 7: it depends upon the extent of surface implicated and the organ affected, upon the general health, and the resources of the system. When it affects internal organs it is usually mortal. When external, the danger is estimated by the extent of the disease and the nature of the part. Thus a circumscribed and superficial mortification of the integument, the cellular tissue, and even aponeuroses and muscles, is not of itself usually a very serious matter; but mortification of the toes, fingers, the foot or hand, the leg or forearm, are much more serious, and the least damage that can follow is a certain quantity of mutilation; and if it be further extended, if it affect the arm or the thigh, the patient commonly sinks under it. When it succeeds to heat, cold, or caustics, the dangers rarely extend beyond the throwing off the part implicated. It may then be compared to a wound, which once made is independent of the cause, and presents only the local disorder necessary for reparation. But in those cases determined by deleterious causes, the local affection is often the smallest part; the general effects produced on the constitution are the most serious part of the affection. The mortification may be comparatively a simple matter; it may not proceed beyond the destruction of a certain quantity of integument and cellular tissue of the hand, arm, or other part, whilst the visceral disorders may by their gravity compromise the life of the patient. Every case of inflammation not limited by inflammatory action must, however, be a source of apprehension, from the uncertainty which exists as to how far it may extend. On the con-

trary, when it is limited we have only to examine the extent of destruction, and to consider whether the powers of the patient be sufficient for the cure. This consideration is most important in those cases which succeed to inflammation of arteries, and to which it is often impossible to set limits. In all cases, the constitution of the patient, and the integrity of his functions, must be carefully looked to. A patient who is young, vigorous, equable, resists such diseases much more powerfully then aged, feeble, and irritable persons: those with lymphatic constitutions, those broken down by syphilis or mercury, or scorbutus, usually offer little resistance. Again, in consequence of serious visceral disease, sloughings of the integuments over the sacrum and the trochanters are very serious matters; they occur in exhausted subjects who cannot support the eliminatory process, and the long suppuration which must precede cicatrization.

In mortification, death happens at three particular periods: first, near its commencement, and as an effect of the cause which has produced it, when some important viscus is affected, or when it results from the action of some very intense poison; second, during its course, when nothing can arrest it, and when it gradually invades parts near the trunk; third, during the action by which the sloughs are thrown off, or from the hemorrhage which sometimes accompanies it; but this rarely happens, because the arteries are obliterated beyond the limits of the mortification; or from the great abundance or long duration of suppuration.

Treatment.—In the general treatment of mortification, these important indications are presented:—to seek to prevent its development; to arrest its progress, and to lessen the violence of the local and general symptoms; to favour the separation of the mortified parts when the efforts of nature tend that way, or to effect this separation when the power of nature does not appear capable of advantageously effecting that object.

If it be true that gangrene may be produced by many causes whose mode of action is very different—if in many cases it may supervene without previous inflammation—if, in some cases where it is preceded by inflammation, it should be attributed more to the deleterious character of the cause of inflammation, than to the violence of that inflammation, it should be equally incontestable that to prevent it, one and the same mode of treatment cannot advantageously be employed in all cases. The treatment of the early stage commonly consists in the more or less active employment of local and general antiphlogistics, combined sometimes with diffusible stimuli. In objecting to this mode of treatment, which has been too much generalized and adopted, I am far from pretending that it is necessary to accord an exclusive preference to any system, or that to prevent mortification, or to avert its progress, it would be rational constantly to have recourse to topical applications, and to tonics, aromatics, or alkalies, so much recommended. I am, on the contrary, convinced that such systems have been frequently abused, and that their exclusive employment has been more fatal than the antiphlogistic method employed in all cases. The various modes of treatment will be considered under their appropiate heads.

We must now consider the changes brought about in various lesions by inflammatory action ending in mortification.

Mortification from intense inflammatory action.—The cessation of the circulation may be produced by inflammation, by mechanical causes which obstruct the passage of the blood, by local and general debility. Although mortification, as a consequence of inflammation, may be produced wherever the latter phenomenon can occur, there are certain tissues of the body which are more than others exposed to it; where the vascularity is most decided, the transition from inflammation to mortification seems most easily accomplished. The skin and cellular tissue, the mucous membranes and the lungs, readily undergo this change; whilst serous and fibrous membranes, which contain few blood-vessels, are comparatively exempt. As an immediate effect of inflammation, Dr. Carswell doubts whether it ever occurs in these tissues, because they are never found in this state unless the cellular tissue with which they are in contact, and from whose vascular system their nutrition is derived, has previously been diseased. When inflammation is about to terminate in gangrene, by its violence or its peculiar character, it exceeds the organic resistance at the part; the tissue ceases to live, is destroyed, and mortification is manifested. The pain, which before was excessive, suddenly diminishes and almost entirely disappears: heat is dissipated in the same proportion; the bright or bluish redness gives way to a livid hue; pressure with the finger, which previously caused the colour to disappear, no longer does so; to the elastic and vital action succeeds a flabby, inert softness of the tissues. Sometimes the tension produced in consequence of the pouring out into the cellular tissues of a large quantity of serous fluid, a similar fluid is poured out into the epidermis, so as to raise it in the form of vesicles or phlyctenæ; under

these vesicles an insensible grey spot is seen—a true slough or eschar. The colour of the part becomes darker, more slaty, the phlyctenæ enlarge, and often large pieces of the epidermis are detached. The parts become more puffy; they crackle or crepitate under pressure, in consequence of the evolution and dissemination through the tissues of extremely fœtid gas. Its odour is so penetrating and peculiar as to constitute one of the most conclusive signs of the existence of mortification. So long as this condition continues to spread, the surrounding red colour is gradually merged in the adjoining healthy tissue, but when the part has power to resist its onward progress, a brighter red, terminating abruptly, is developed, and constitutes a line of demarcation between the living and the dead, and a barrier to the further extension of the mortification. Ulcerative inflammation is developed along that line, and ultimately the dead parts are thrown off in the form of sloughs.

Again, we must consider the effects of mortification so produced upon the cellular tissue, which is more frequently and more extensively affected with mortification than any other structure in the body. It is also more rapidly broken down than any other tissue. In erysipelas phlegmonodes this destructive action is well shown. In those cases the cutaneous redness is variable. When the inflammatory action is confined to the cellular tissue it soon becomes infiltrated with fluids; the skin then instead of being red is pale and glossy, the tumefaction is great, the skin tense, that distension being dependent upon the quantity of effused fluids; and the destructive progress of the disease seems to be very much in relation with the rapidity and quantity of the fluid effused. If we examine a limb in the first stage of phlegmonous erysipelas, the cellular tissue most removed from the starting point of the disease is discoloured by the presence of minute vessels distended with blackish blood, around which much serous fluid is effused; but as we proceed nearer to the centre of the affection the quantity of fluid is so great, and the distension of the cellular tissue consequently so considerable, that the limb almost appears to be constituted of cellular tissue. In this state it feels hard, but easily broken down, and when pressed upon, much serous, purulent, or sanguineous fluids escape. At the centre itself the blood and tissues are broken down into a kind of spongy purulent mass: the muscles, tendons, blood-vessels, and nerves, being laid bare.

Whether, as Dr. Carswell supposes, such effects be brought about by the mechanical influence exercised by the effused fluids on the capillary circulation, may admit of some question. That these fluids do compress the neighbouring veins to some extent is no doubt true, but whether so much as to prevent the return of the blood into the capillaries I cannot say, although I confess that the inclination of my mind is against it. If the tissue were firmly bound down it would probably be so, but where it is lax, where extension in all directions is not interfered with, I think the case is different. If such compression be exercised, the function of nutrition must be much interfered with, if not entirely prevented. We know that much relief is derived in such cases from free incisions, and their obvious action is to remove as far as may be the mechanical distension. Still the cutaneous integument will give way very greatly, before the pressure upon the vessels can be very great, and therefore although I am indisposed to admit fully that at that period the nutrition can be cut off by pressure made by these fluids, yet I am quite prepared to admit that at a later period it may be so.

Mortification of mucous tissue from inflammatory action is characteristic; that of the throat and intestines sometimes occurs: in the throat it is occasionally observed in cynanche maligna; in the intestines, in some cases of enteritis. These structures become successively grey, ash, or straw, and brown or black in colour, the surrounding tissues being gorged with dark blood. When, however, the gangrenous inflammation is there developed, it can only be detected by the colour, consistency, and smell of the part, taken in connection with the other evidence. In the air-passages, the genital or urinary organs, this state does not frequently occur; but when it does occur in the urinary organs, it is often accompanied by hæmorrhage, which gives to the membrane a deep red or blackish colour: it is easily torn, detached, and converted into a soft spongy substance, with a strong gangrenous odour.

Kaltenbrunner has carefully observed the changes in the blood-vessels from the development of inflammation to its termination in gangrene or mortification. The inflammatory action being excited by a mechanical or chemical stimulus, the phenomena which were sufficiently indicated, when we considered the state of the capillary system in inflammation, occur. Arrived at what is called its perfect state, the blood has ceased to circulate, and has acquired a dark or blackish colour. The sensibility of the part rapidly diminishes, absorption ceases; for the most active poisons introduced into the part either produce none of the effects which are peculiar to them, or do so very tardily and ineffectually. Under these modifications

of function, nutrition after a certain length of time ceases, the temperature declining to that of external objects. Its consistency diminishes as soon as decomposition commences, and the colour it assumes varies with the quantity and quality of the fluids which it contains, and the chemical changes which these undergo from the action of the gaseous products of decomposition.

Treatment.—In the treatment of mortification succeeding to inflammation, or rather when mortification is impending, local and general antiphlogistic means should be used, with an energy proportioned to the age and constitution of the patient. To extinguish irritation in the threatened parts is manifestly the surest means of preserving them. When strangulation occurs it must be relieved by incisions. Sometimes even, as in gun-shot wounds, experience has shown that the tumefaction of parts through which the ball has passed will be bound down by the surrounding aponeuroses, and that strangulation may result from this disposition. These may be prevented by more or less extensive incisions. It is upon this same principle that the proper treatment of carbuncle and whitlow rests. But when it has invaded with energy those intensely irritated, compressed, or strangulated tissues—when the tenseness, heat, and pain, have subsided or ceased, the local and general antiphlogistic treatment must be abandoned. The parts almost constantly sink into an asthenic state proportioned to the violence of the previous inflammatory action; the pulse declines, the skin loses its burning heat, muscular debility succeeds to agitation. In proportion as these symptoms are manifested, particularly if the digestive system has retained its integrity, it is recommended that tonics, alcoholic and other stimuli, should be exhibited. Now although it may be well to exhibit tonics, such as quinine, you must never expect to derive rapid good from them. They will not, for instance, in twenty-four hours increase the power of the heart and of the system, so as to enable it to resist the extension of the disease. To alcoholic stimuli I advise you to have recourse, to excite the system sufficiently to throw out the inflammatory line of demarcation between the living and the dead. When that important result is obtained, you may lessen the diffusible stimuli, and place more confidence in the effect of the bark.

But we must attend to local as well as general means: the parts should be surrounded with warm poultices or fomentations. When very humid, powdered charcoal or powdered bark may be used, with the two-fold object of stimulating the living parts, absorbing the fluids, and thus rendering absorption less probable, and lessening the fetor. We may sometimes associate with them the chloride of soda and lime; but when applied they should be diluted with an equal quantity of water, or some tonic infusion or decoction. When the sloughs are thick, resistant, impermeable, incisions may be employed, so as to divide them, to set free the putrid infiltrated fluids often found under them, and to allow of the admission of topical applications; but they must be prudently made. It would be worse than useless to penetrate into the living tissues; it would occasion hemorrhage, and sometimes by this means increase the tendency to extend. Therefore, in using them we should very carefully avoid penetrating beyond the sloughs; with this precaution they allow of the escape of pent-up fluids, and afford a means of access for topical applications to the living tissues.

The time now arrives for the separation of the sloughs, and if the reaction of the living parts be sufficient, all that it is necessary to do is to regulate the diet, taking care that the patient have enough of nutritious and easily digested food. But if the action be insufficient, tonics and stimulants must be continued. If it be too energetic we must moderate the action by antiphlogistics, and by abstinence. As the gutter of separation deepens, digestive stimuli, as they are termed, may be applied. It is always important to avoid dragging at the sloughs, because it will occasion pain, and perhaps hemorrhage. You must be content to support the part gently, and to remove those sloughs which may be partly detached, with a scissors. In some rare cases it is recommended that we should retard, as far as possible, the separation of the sloughs; this should be done when the patient is very debilitated, and unable to bear up against the necessary suppuration. Astringent and antiseptic powders are used for this purpose; bark, camphor, tannin, solutions of alum, sulphate of iron or zinc, or the acetate of lead; by the use of these means "we are enabled to retard the separation for weeks, or even months, while the patient is gaining strength. Still, in my opinion, you must place no great reliance upon these topical applications; when they appear to succeed it is usually, I think, because the action of elimination in the patient is extremely feeble; and I apprehend a tardy separation is much more owing to the want of power in the patient than to the virtues of these topical remedies. It is in the living tissue that the work of elimination is done, and the action of these substances is directed upon the dead sloughs. Cold, applied by means of ice in bladders, has been recommended as a better means

of attaining this object, by lessening vital action in the part; and certainly in bad burns, where the surface is not very large, it seems to have the effect.

When mortification has attacked the whole thickness of a limb, has destroyed much of the circumference, implicated large vessels, opened articulations, occasioned the development of necrosis, we cannot leave to nature the work of separation; we must have recourse to amputation. But although necessary, the principle which has been usually acted upon is, that the mortification must be limited by the inflammatory barrier before we remove the limb, lest we be too near the mortified tsssues, and the disease should reappear upon the stump. By some surgeons this rule is held to have no exception, by others it is not so strictly followed. Hébréard many times saw amputations performed upon old persons, before the mortification was limited, do very well. Not long since I amputated a leg, in a case which some of you may recollect, in which it was found impossible to excite the necessary inflammatory action, and the case did very well; but these cases of success do not often happen when mortification succeeds to intense inflammatory action. It is true even in such cases, succeeding to bad wounds, Larrey has often amputated with success; his rule is, that where it results from gun-shot or other wounds, followed by excessive inflammation, but affecting determined spaces, though no line of demarcation be developed, amputation may be performed; but it should be done as far as possible, in the division of a limb it may affect, from the seat of the disease. When the disease occupies the lower third of the leg, it is better to amputate just below the tuberosity of the tibia, than directly above the slough, and when it extends irregularly, we may sometimes include it with a flap amputation, when the circular would fail.

From mechanical obstacles.—Mortification may succeed to a mechanical obstacle to the circulation; but nutrition may be impeded in these cases in two ways: there may be an obstacle to the arterial or the venous circulation. In the former case it may be a ligature, a coagulum, a mass of fibrine, ossification, or entire obliteration by conversion into ligamentary tissue. In the latter, by products in the sheaths, by the presence of tumors making pressure, by fibrine or other substance, or by disease of the heart. Where mortification depends upon these circumstances, there is in both cases accumulation of venous blood, and an early symptom is œdema of the ankles, which gradually extends upwards, and produces considerable tumefaction, the skin being pale and glossy, but in some cases there is a cutaneous congestion, and the limb then presents a mottled appearance, and vesications often occur at the congested points.

The illustrations given by Dr. Carswell of mortification from a mechanical obstacle to the return of the venous blood [illegible] striking one—intussusception of the intestines. "When the superior portion of intestine passes into the inferior, it carries along with it that part of the mesentery to which it is attached. If it does not suffer much compression, the invaginating process may go on to a great extent; but if it is compressed to such a degree that the return of the venous blood is obstructed, this stage of the disease is arrested, on account of the congestion of all the tunics of the invaginated portion. The congestion is not the consequence of inflammation; it is produced by compression, and in the following manner: when the mesentery is put on the stretch by the descent of the superior into the inferior portion of the intestine, the veins belonging to it are compressed between the walls of both portions, just at the point where the invagination terminates superiorly. If adhesive inflammation takes place at this point, the peritoneal surfaces of both portions becomes united, and the veins obliterated. As the arteries are much less affected by pressure than the veins, they continue to pour in their blood into the invaginated portion; this fluid accumulates, and produces an extreme degree of congestion of the mucous and submucous coats, giving to them a deep red, or almost black appearance. In this state, however, it is not deprived of its vitality; it is in a state of gangrene, but not of sphacelus, for its structuae is still entire; and it may, when separated and evacuated, present, after having been macerated for some time, so as to deprive it of the blood which it contains, the most perfect state of integrity of all its tunics. Occasionally, however, a portion of the whole of the invaginated intestine is found in a state of complete sphacelus, and is passed in the form of irregular spongy masses or shreds, of a dirty ash-grey, brown, or black colour.

A mechanical obstacle to the circulation may be presented in the form of a plug of varying length, succeeding apparently to rupture of the internal or middle coat of an artery, or both. Two cases illustrating this variety of mortification are given by the late Professor Turner, of Edinburgh, in the third volume, first part, page 105, of the Medico-Chirurgical Transactions of that city. In the first case there was dilatation, commencing at a point where the "internal coats of the vessel terminated in a ragged margin." Beyond

this point the artery was pervious and empty, but there was a small crucial fissure or laceration. His second case was also one in which mortification succeeded to the laceration of similar tunics in the humeral artery. These cases are interesting, as shewing that arteries may undergo such changes, and that such changes are capable of producing mortification. Lebert mentions a case of gangrene of the arm, succeeding to fracture, in which the fragments had contused the brachial artery, excited arteritis, and the consecutive obliteration of the vessels.

ON SUICIDE.

By Forbes Winslow, M.R.C.S.L.

[*For the London Medical Gazette.*]

The love of life.—The natural propensity to destroy.—Is suicide the result of insanity?—Hindoo suicide.—Causes of suicide.—Effect of imitation.—Epidemic suicide.—Hereditary suicide.—Appearances after death.—Intestinal irritation.—Physical treatment.—Suicide in France.—Influence of seasons.—Why has suicide increased of late years?

It is difficult to reconcile, with our knowledge of the instincts of human nature the fact that a person can deliberately commit an act of self-destruction. There is no feeling so strongly implanted in us as the love of life. It is an instinct of nature to strive to preserve our being; and an instinct cannot easily be eradicated. One of our poets, in alluding to this subject, after declaring life to be the dream of a shadow, "a weak-built isthmus between two eternities, so frail that it can neither sustain wind or wave," yet avows his preference of a few days', nay, a few hours' longer residence upon earth, to all the fame which wealth and honour could bestow—

> "Fain would I see that prodigal
> Who his to-morrow would bestow,
> For all old Homer's life, e'er since he died,
> till now!"

"Is there anything on earth I can do for you?" said Taylor to Dr. Wolcott, as he lay on his death-bed. The passion for life dictated the answer. "Give me back my youth." These were the last words of the satirical buffoon. There is an anecdote recorded of one of the favourite marshals of Napoleon, the Duke de Montebello, which finely illustrates the strength of this instinctive principle. During a battle in the south of Germany, the Duke was struck by a cannon ball, and so severely wounded, that there was no hope for respite. Summoning the surgeon, he ordered his wounds to be dressed; and when help was declared to be unavailing, the dying officer, excited into a frenzy by the love of life, burned with vindictive anger against the medical attendant, threatening the heaviest penalties, if his art should bring no relief. The dying Marshal demanded that Napoleon should be sent for, as one who had power to save; whose words could stop the effusion of blood from the wound, and awe nature itself into submission. Napoleon arrived just in time to witness the last fearful struggle of expiring nature, and to hear his favourite Marshal vociferate, as the lamp of life was just being extinguished —"Save me, Napoleon!" We have heard of a similar instance in humble life. A man, on the point of death, vowed he would not die, cursing his physician, who announced the near termination of his life, and insisting that he would live, in defiance of the laws of nature! In both these cases we see clearly manifested the passion for life; the instinct of self-preservation, which it is almost impossible to master.

It is recorded of Louis XI. of France, that so desperately did he cling to life when everything warned him to prepare for death, that he, in accordance with the barbarous physiology of that age, had the veins of children opened, and greedily drank their blood; hoping in this way to fan the dying embers of life into a flame.

Considering the love of life as one of our strongest instincts, the question for us to investigate is, whether it can be possible for any human being, exercising a sound intellect, so far to obtain a mastership over the laws of nature, as to commit an act of suicide?

It is not my intention to consider this subject phrenologically. That we have all certain good and evil propensities inherent in our nature developed in various degrees in different individuals is admitted by the anti-phrenologist, as well as by the most zealous advocate of that science. We need no phrenology to tell us that the heart of man is deceitful above all things and desperately wicked. Scripture makes us acquainted with this fact. We must not always look at the bright side of human nature. Without then using *terms* which might be considered objectionable, there can be no doubt of the existence in the human mind of a propensity to destroy, varying in degree from the simple pleasure of viewing the destruction of human life, to the most impassioned desire to kill others, or oneself. This is a natural propensity, and when not subdued by the higher faculties of the mind, it exhibits itself in the form of unequivocal insanity. This feeling to destroy may exist in conjunction with a consciousness on the part of the individual, that he is

about to commit a crime opposed to the laws of God and man. Dr. Gall relates many particulars of cases in which this natural propensity became morbidly developed. A student shocked his fellow pupils by the extreme pleasure he took in tormenting insects, birds and brutes. It was to gratify this inclination, he confessed, that he studied surgery. A man had so strong an inclination to kill, that he became an executioner; and a Dutchman paid his butcher, who furnished ships with extensive supplies of meat, for being allowed to slaughter the oxen. In these cases we see this natural feeling inordinately developed. Subject such persons to the operation of causes likely to excite this extra-developed propensity, and they will become murderers of themselves, or others.

Gall mentions the case of a person at Vienna, who, after witnessing an execution, was seized with a propensity to kill. At the same time, he had a clear consciousness of his situation. He wept bitterly; struck his head; wrung his hands, and cried to his friends to take care and get out of his way. Pinel mentions the case of a man, who exhibited no apparent unsoundness of intellect, who confessed that he had a propensity to kill; he nearly murdered his wife, and then attempted several times to destroy himself.

In 1805, a man was tried at Norwich for wounding his wife, and cutting his child's throat. He had been known to tie himself with ropes for a week to prevent his doing mischief to others and to himself. A man, exposed to a sudden reverse of fortune, was heard to exclaim: "Do for God's sake get me confined; for if I am at liberty, I shall destroy myself and wife! I shall do it unless all means of destruction are removed; and, therefore, do have me put under restraint. Something above tells me I shall do it; and I shall!"

What conclusion are we justified in drawing from the facts just related? Certainly that there is in us all a disposition to destroy, which is in some wisely and providentially restrained. If this view of the matter be correct, I do not think that we should be wrong in concluding that the great majority of cases of suicide result from a morbid development of this natural feeling, consequent upon a primary or secondary affection of the brain. This subject is of great interest in a medico-legal point of view, and is well deserving of serious consideration.

Is the act of suicide an evidence of mental derangement? Before this question can be satisfactorily answered, it would be necessary for us to consider that *vexata questio—In what does Insanity consist?*

Have we an unfailing standard to which to appeal;—an infallible *test* by which we can ascertain with anything like a proximity to truth, the sanity of any mind? Perhaps, if I were to assert that I considered it impossible to point out the line of demarcation which separates the confines of a sane and insane condition of the mind, I might lay myself open to an attack. Again, were I bold enough to proclaim my non-adherence to what is considered as the orthodox faith in this matter, and assert that I viewed every departure from a healthy tone of mind, whether in its intellectual or moral manifestations, as an evidence of insanity, I might still more expose myself to the unmerciful lash of the critic; yet these are the opinions to which I should feel most disposed to give my assent. We must make a marked distinction between insanity, considered as a *legal* and as a *medical* question; it is greatly owing to our not keeping this essential difference in view that has given rise to so much useless reasoning and vituperation. The man who is daily exposed to the kind and cheering influence of friendship, and who fancies himself alone in the world without one human being to sympathize with him in his afflictions, is as essentially mad as he is who imagines himself to be made of glass, and is fearful of sitting down lest he should injure his brittle gluteii muscles. A poet of antiquity is said to have written a book describing the miseries of the world, and to have destroyed himself at the conclusion of the task. Dr. Darwin records the case of a man who cut his throat, leaving behind him this observation written on a piece of paper—"I am impotent, and therefore not fit to live."

In many cases it is not easy to trace the act of suicide to direct insanity, but there is always a strong presumption in favour of the existence of mental derangement.

Suicide, as is well known, is often the result of certain directions of the intelligence in relation to prevalent institutions and customs. It is very questionable whether the Hindoo widow, who ascends the funeral pile of her husband in obedience to the religion of her country, is to be considered as insane. The sceptics who considered death an eternal sleep, and who killed himself because his cook spoiled a favourite dish, when looked at, abstracted from the habits of the people with whom he had all his life-time associated, and the irreligious tone of the society he had kept, ought to be viewed as mad; and yet, how impossible it is to come to a sound conclusion on this subject, and lay down a general rule which could be applicable to all cases.

With respect to the cause of suicide it

is difficult to detect, in the great majority of cases, with much accuracy, the circumstances which have operated in producing the disposition to commit the rash act. The cerebral disease may be, and often is, only a secondary affection, the primary cause being a physical disease, situated at some distance from the sentient organ.

Of six thousand seven hundred and eighty-two cases of suicide examined carefully by M. Falleraye, detailed in the records of the police, the following is the analysis :—

Disappointed love*	254
Jealousy.....	92
Humiliated self-love.....	53
Grief	120
Remorse for misdeeds	49
Blighted ambition	122
Reverse of fortune	322
Gambling	155
General bad conduct	1287
Domestic chagrin	728
Misery	905
Misanthropy	3

The causes of the remaining numbers were not ascertained.

Dr. Schlegel traces the disposition to commit suicide among the English, Germans, and Russians, to intemperance, in France to love and gambling, and in Spain to bigotry. A curious fact is mentioned by an authority in the North American Review—that in the week which followed the drawing of the last lottery in England fifty suicides were committed!

A frequent cause of suicide is a perversion of the natural instinct of imitation: In some persons we witness an iresistible propensity to imitate others. Tissot relates the singular case of a female, in whom the faculty of imitation was so strongly developed, she could not avoid doing everything she saw others do. The commission of a great and extraordinary crime to this day produces not unfrequently a kind of mania of imitation in the district in which it happened. Religious incidents have constantly been known to occasion similar events; and what is remarkable is, that the scene or place of the first event seems to favour its repetition by other persons approaching it. Thus a supposed miracle having been performed before a particular gate in Paris, such a number of similar occurrences happened on the same spot in a few days, that the police posted a peremptory notice on the gate, "prohibiting any individual from working miracles on the place in question." This had the desired effect, and miracles ceased to be performed. Some years back a veteran hung himself at the *Hôtel des Invalides* on the threshold of one of the doors of a corridor. No suicide had occurred in the establishment for two years previously; but in the succeeding fortnight five individuals hung themselves on the same cross bar, and the governor was obliged to shut up the passage.

If this principle of imitation is so strongly inherent in human nature,—if the publication of remarkable cases of suicide and atrocious instances of murder has so injurious an influence on the minds of others as to tempt them to the commission of similar offences, the conductors of the press ought certainly to exercise a little more discretion in publishing, with such minuteness, cases which ought to be concealed as much as possible from the public eye. The commission of one murder is often followed by others. Gall informs us of a man who, on reading in the newspaper the particulars of a case of murder perpetrated under peculiar circumstances of cruelty, was instantly seized with a desire to murder his servant, and would have done so had he not given his intended victim timely warning to escape.

M. Falret has stated several extraordinary facts which prove incontestibly that suicide has prevailed epidemically particularly in time of great public distress, and when the constitution of the air has been very hot and moist. In 1813, in the small village of St. Pierre Nonjou, in the Valais, one woman hung herself, and many others followed her example, when the civil authorities adopted means of preventing the contagion from spreading. At one period, at Lyons, the women were seized with a propensity to commit suicide, by throwing themselves into the wells of the city; this desire raged epidemically. A gentleman informed Dr. Burrows, that when he was at Malta, a few years after the island was taken by the British, suicide became so alarmingly common, that every means were tried to put a stop to it, but nothing succeeded till the commandant resolved to deny the bodies of suicides christian burial, and to treat them with every indignity. This had the desired effect.

That the disposition to commit suicide may be hereditary is a point about which there cannot be a doubt. M. Falret gives a striking instance of this. A young man committed suicide at Paris, and his brother was sent for from the country, to attend his funeral. At seeing the body he was seized with great agitation, and exclaimed, with melancholy foreboding, "Alas! my poor father died by his own hand, and now my brother has fallen a victim to the same fate, which awaits me also, as I have been strongly tempted on

* 157 were females.

my way hither to follow their example, and I cannot avoid it." A similar case is mentioned by Dr. Rush, of Philadelphia. The propensity to commit suicide will propagate its own type through successive races. Dr. Burrows observes, "I have had several members of one family under my care, where this propensity to commit suicide declaired itself through three generations: in the first, the grandfather hung himself; he left four sons: one hung himself, one cut his throat, and the other drowned himself in a most extraordinary manner, after being some months insane; the fourth died a natural death, which, from his eccentricity and unequal mind, was scarcely to be expected. Two of these sons had large families; one child of the third son died insane; two others drowned themselves; another is now insane, and has made the most determined attempts on his life. Several of the progeny of this family, being the fourth generation, who are now arrived at pberty, bear strong marks of the same fatal propensity. None, I believe, of the children of the fourth son, of the second generation, who died a natural death, have manifested this predisposition."* If we are right in considering all cases of suicide as the result of a departure from a healthy condition of moral feeling, strictly speaking, as *moral insanity*, we cannot have much difficulty in assenting to the proposition that the disposition to destroy life may be the effect of hereditary transmission. Pinel relates the case of a father, son, and daughter, who destroyed themselves by their own hands. It may be said, this is only the result of imitation. It could not have been so in the first instance, for the grandfather of the children had also been guilty of suicide, which fact had been, for certain purposes, concealed from his son, and who therefore was not exposed to the powerful influence of the imitative principle. There are so many facts on record in support of this view of the subject, that I feel assured the society will consider it unnecessary for me to state any thing additional in confirmation of the opinions expressed.

The appearances presented after death in the bodies of those who have committed suicide are vague and unsatisfactory. In many cases marked disease of the brain has been detected. Every variety of morbid appearance which has been found in the brain of lunatics has been found in suicides: softening, hardening, toughness, abscess, albuminous deposits; deposits of bony matter, ossification of arteries: hydatids in the venticles, plexus choroides, and even in the brain. Malformation of the cranium, morbid growths at its base, osseous excrescences, have been detected in those who have committed suicide. In many cases no appreciable disease is exhibited either in the brain or in any other organ. This is, however, often the case in unequivocal insanity. In many instances organic lesions are discovered in the heart, liver, stomach, and bowels. The liver is more often the seat of the irritation than is commonly supposed. A case is recorded of a man who terminated his existence during an attack of constipation of the bowels. After his death, the lower intestines were found loaded with hardened feculent matter. His spirits were much depressed, owing to the physical derangement under which he suffered. I feel assured that in these and analogous cases the melancholy which generally precedes, and always accompanies the act of self destruction, is more attributable to physical disease of the abdominal or thoracic viscera, acting by sympathy on the brain, and causing a derangement of its manifestations, than by any idiopathic mental affection. It is to the condition of the liver, heart, bowels, or stomach, that the medical man ought particularly to direct his attention in cases like these.

With respect to the treatment no particular instructions can be given, much will depend upon the individual features of each case. I would, however, make one general observation on this part of the subject. It is my belief, that in the great majority of cases, the practitioner may, by a careful examination, detect the existence of premonitory symptoms. Any unusual depression of spirits ought to attract the notice of the discerning and philosophic physician; but unfortunately he is not often called in until the fatal act is committed. In cases where it is supposed to be the result of imitation, something must be done to rouse the minds of those exposed to its influence. When Buonaparte was first Consul, two suicides occurred in a single week in the line, and being apprehensive of the delusion spreading, he issued the following general order: "A soldier should be able to subdue his passions, as the man who suffers mental pain without shrinking shows as much real courage as he who stands firm under the fire of a battery; but to become the prey of melancholy, or to commit suicide, is like flying from the field of battle before the contest is ended." This appeal to the courage of the soldiers of Napoleon was perfectly successful, and no cases of suicide occurred for a considerable time.

It is qnestionable whether we direct sufficient attention to the physical treatment of certain mental conditions which cannot properly be considered as the ef-

* Commentaries, p. 442.

fect of insanity. In many cases similar to those related where a morbid inclination to kill has been manifested, a timely administered purge, and the abstraction of blood, has often cured the patient of his depraved propensity. We know well enough, by a reference to our own experience, how much the spirits are affected by what is termed bilious derangement. There are crimes for which men are hanged, but of which they might easily have been cured by physical means. Damien persisted to the last in declaring, that had he been bled that morning, as he wished and requested to be, he never would have attempted the assassination of Louis XV.

The blood-thirsty miscreant, Robespierre, is said to have been of a "*costive habit, and to have been much subjected to derangement of the liver*" After death it is said, that "*his bowels were found one adherent mass.*" It is indeed, morally and physiologically speaking, an interesting question to discuss, how far these morbid ailments influenced this monster in the bloody career in which he was engaged.

I knew a gentleman whose temper was not controllable if he allowed himself to pass a day without his accustomed evacuation from the bowels. Gaubius relates the case of a lady of too inflammable a constitution, whom her husband had gradually reduced to a model of decorum by phlebotomy. Pinel records the particulars of a case of a man who had fits of mental derangement when the action of the bowels became irregular.

This principle is well illustrated in an anecdote recorded of Voltaire. An English gentleman of fortune had been sitting many hours with this great wit and censurer of human character. They discoursed chiefly on the depravity of human nature; on tyranny, and oppression of princes; poverty, wretchedness, and misfortunes; the pain of disease, particularly the gout, gravel, and stone. They worked up each other to such a pitch of imaginary evils, that they proposed next morning to commit suicide together. The Englishman firm to his resolution arose, and expected Voltaire to perform his promise, to whom the genius replied, "Oh! Monsieur, pardonnez-moi, j'ai bien dormi, mon lavement a bien operé, et le soleil est tout--à fait clair aujourd'hui."

The *tædium vitæ*, or ennui, which is so often the cause of suicide among our friends across the channel, is only to be subdued by moral treatment. Imagined distress is often relieved by the person being subjected to the real ills of life. It is, indeed, difficult to restore enjoyment to the man who has quite exhausted it. Here the advice which Fenelon gives to Dyonysius, the tyrant, by the mouth of Diogenes, will naturally apply:—"To restore his appetite he must be made to feel hunger; and to make his splendid palace tolerable to him, he must be put into my tub, which is at present empty."

The English have been accused by foreigners of being the *beau ideal* of a suicidal people. The charge is almost too ridiculous to merit serious refutation. It has been clearly established, that where there is one suicide in London, there are five in Paris. In the year 1816 the number of suicides committed in London amounted to 188; the population of Paris being some 400,000 less than that of London. From the years 1827 to 1830 no less than 6,900 suicides occurred!—that is to say, an average of nearly 1800 per annum! A curious fact has been arrived at with reference to this subject. It is clearly established, that from whatever confine of France an inquirer proceeds to the capital, he will find, as he approaches it, that the number of suicides increases by a regular gradation. The same observation applies as forcibly to Marseilles, which is in some measure the capital of certain departments in the south of France. Again, from an examination of the French registers of crime, it appears that in those divisions of the kingdom of France in which the most frequent attempts have been made to commit murder, the crime of suicide is rare; and it has been farther established, that precisely the reverse of this law takes place in the other departments; viz. that where suicides are numerous in proportion to the population, there the number of murders committed is considerably diminished. To what circumstance ought we to attribute this disposition on the part of the French people to sacrifice human life? We need not feel any surprise at this great disparity when we take into consideration the moral and religious condition of the inhabitants of each county. Where Christianity is not acknowledged as a matter of vital importance in the affairs of man—where morality is considered only as a conventional term, conveying no definite idea to the mind, it is natural that there should exist, co-relative with this tone of feeling, a marked recklessness of human life. If an Englishman commits suicide, it generally arises from some sudden reverse of fortune, or grievous disappointment, which is allowed to prey upon his mind until he is induced to seek relief in the arms of death. In great mercantile communities, where men may be reduced, in a few minutes, from affluence to beggary, the crime of suicide will prevail. Wounded pride, disappointment, the schemes of an existence laid in the dust, the insulting pity of friends, the

humbled despair of all our dearest connexions, for whom perhaps we toiled and wrought; the height from which we have fallen, the impossibility of regaining what we have lost, the searching curiosity of the public, all rushing upon a man's mind, in the sudden convulsion and turbulence of its elements, what wonder that he welcomes the only escape from the abyss into which he has been hurled.

They manage these things, however, better in France. With the French a trifling loss at dice or cards, and simple ennui, are sufficient motives for committing self-destruction. "Life," said a Frenchman who had exhausted all his external sources of enjoyment, and had no internal ones to fly to, "has given me the head-ache, and I want a good sleep in the churchyard to set me to rights," to procure which he deliberately cut his throat.

"The members of '*The Society of the Friends of Suicide*,' formed in Paris," says an eminent English author, in alluding to the mental characteristics of the French people, "ask you to see them *go off*," as if death was a place in the *malle poste*. "Will you dine with me to-day?" said a Frenchman to a friend. "With the greatest pleasure:"—"Yet, now I think of it, I am particularly engaged to shoot myself: one cannot get off *such* an engagement." This is not the suicide *à-la-mode* with us. We ape at no such extra refinement, or civilization. We can be romantic, without blowing out our brains. English lovers, when the course of true love is interrupted, do not retire to some secluded spot, and rush into the next world by a brace of pistols tied up with cherry-coloured ribbons. When we do shoot ourselves, it is done with true English gravity—it is no joke with us. We have no inherent predilection for the act; no "hereditary imperfection in the nervous juices" (as Montesquieu, with all the impudence of a philosopher, gravely asserts) forcing us to commit suicide.

But to be serious. Dr. Schlegel has dwelt at much length on the abandoned state of the inhabitants of the French metropolis; and after giving us some most important statistical details respecting the number of suicides committed there, and the causes which led to them, he alludes to the gross immorality of the people, and concludes by denouncing the Parisian capital as "a suffocating, boiling cauldron, in which, as in the stew of Macbeth's witches, there simmer, with a modicum of virtue, all kinds of passions, vices, and crimes."

The English, then, are not, *par excellence*, a suicidal people. When the inhabitants of a country are industrious and prudent, the crime of self-destruction will be rare. Out of 120,000 persons who insured their lives in the London Equitable Insurance Company, the number of suicides, in 20 years, was only 15! The Irish are said to be the least disposed, of all nations in the world, to commit suicide. Dublin and Naples are the two cities in which fewest suicide occur; yet in both the poorer classes are poor indeed. Dr. Graves observes, that an Irishman often murders his neighbour, but he has too high a sense of propriety to think of killing himself. The fact is, that the prevalence of murder prevents the necessity for suicide.

The popular notion that more suicides are committed in the month of November than at any other period of the year, is founded on erroneous *data*. Taking the average numbers of suicides in each month, from the years 1817 to 1826, it was as follows:—

January	213
February	218
March	275
April	374
May	328
June	336
July	301
August	296
September	246
October	198
November	131
December	217
	3,133

It has been clearly established that in all the European capitals, when any thing like correct data can be obtained, the maximum of suicide is in the months of June and July; the minimum in October and November. It appears from this that the disposition has most to do with high temperature; for it has been proved that when the thermometer of Fahrenheit ranges from 80° to 90°, suicide becomes more prevalent.

With reference to the mode of terminating life, it is said by competent authorities that in early life death by hanging is preferred; in middle life fire-arms become fashionable; and that, in more advanced years, the rope again is in vogue. Suicide is less frequent among females than males.

In the preceding observations I have but skimmed over the surface of a gigantic subject. Many circumstances combine to render the question of great interest at this moment. The number of suicides committed of late years has no parallel in the history of this country. The crime has indeed most alarmingly increased, and it is the duty of this Society, the members of which may not inaptly be considered as the representatives of the medical profes-

sion in London, to enter fairly and fully into the inquiry. We cannot take up a daily paper without seeing the reports of five or six cases of suicide. To what circumstances are we justified in attributing this morbid propensity to destroy life? Were I allowed to suggest a reason, I should feel disposed to trace the fact to the revolution which has taken place of late years in the minds of the people of this country. We require no Solon to tell us that in all communities where the passions of the people are roused by political excitement, there you will witness a proportionate amount of insanity in all its phases. When the working population of a counrty are induced by wily and cunning demagogues to leave their once peaceful habitations, and to mix in the turmoils of political strife—when men who have not the capacity to govern themselves are led to think they are capable of governing others—when the representative of a once industrious tradesman is induced to consider the scion of his house a fit personage to legislate for the county, and is made to pore over the works of Lord Bacon, instead of following his grandfather's and father's occupation—need we feel surprise if, in union with this change in the public mind, we should witness an increase in the crime of suicide? Excite a man's worst passions—tell him he is debased by the laws—tell him it is exhibiting the spirit of a slave to submit to authority—that he is as good as the man who is placed over him as a ruler—that he is as qualified to govern the country as my Lord Melbourne, and what will be the consequence? A dissatisfaction is excited in his mind; he becomes ashamed of his natural position in society; his worst propensities are roused; and when he, after fancying himself fit to be a statesman, finds that he must go back to his once happy and honest employment, he becomes worked up to a pitch of desperation, and suicide is the result. This is no overcharged picture. History has been denounced as an old almanack; but from its pages many instructive lessons may be learned. During the French revolution suicides in that country reached to an enormous extent. Is there any thing to surprise us in this fact? It is notorious that in despotic countries madness and suicide are extremely rare. Not that this is a legitimate argument in favour of despotism, but it demonstrates to us the folly of uselessly exciting the passions of the human mind, and that it is the first duty of a good citizen and government to endeavour to elevate the moral character of a nation by sound religious education, and to inculcate peace, charity, and goodwill to all.

ON SIPHILIS.

By Herbert Mayo, F.R.S.
Senior Surgeon to Middlesex Hospital.

[Continued from page 385.]

[*For the London Medical Gazette.*]

Relation of the three principal varieties of cutaneous siphilitic disorders to different primary sores—Venereal affections of the Throat—Excoriation — Superficial ulcer — Excavated ulcer—Sloughing ulcer—Relations, progress, and treatment of the same—Affections of the nose.

It is not my intention to enter, on the present occasion, into all the varieties of skin disease manifested in secondary siphilis; the rarer kinds are as numerous probably, as are peculiarities of bodily habit, or the varieties of skin disease arising from other sources; to follow them is to look after single instances, not after classes. Those which I have endeavoured to exemplify are the forms into which siphilitic cutaneous disease moulds itself in the great majority of instances; and the necessary rules for the treatment of the other accidental diversities are easily deducible from the directions given for the treatment of these three. I hope that, in sketching these commoner forms, I may have added something to the mass of observation already current respecting them. For the idea of grouping the varieties of cutaneous siphilis under these three heads, and the description and contrast of their prominent features, we are indebted to Sir R. Carmichael, in whose treatise, the most instructive after Hunter's — "On the Venereal Diseases which have been confounded with Siphilis," these views are expounded. Sir R. Carmichael went, indeed, a step further, in which I have not thought the ground firm and safe enough to follow him. He ascribed these three forms of cutaneous disease to different kinds of primary local affections, and different morbid poisons. The scaly diseases Sir R. Carmichael supposed to be the consequence of indurated chancre; lichenous disease he traced to superficial ulcers, excoriation of the glans and prepuce with discharge, and gonorrhœa virulenta; ulcerative skin disease to phagedæna. "I have not," he remarks, "in any one instance ob-

served the eruption to be papular or tubercular when it arose from the true siphilitic ulcer, or to be scaly when it followed those eruptions which do not possess the characters of chancre, the indurated edge and base." And, certainly, the experience of subsequent observers has borne out, to a considerable extent, the views presented by Sir R. Carmichael. Mr. Rose remarked, when pursuing the non-mercurial treatment, that most of the cases of papular eruption followed "ulcers which were not very deep, and which healed without difficulty, several of them having a thickened, but not a very indurated margin;" and to myself it has not happened to see any but ulcerative skin disease follow phagedænic sores. I entertain, therefore, the belief, that the association which Sir R. Carmichael pointed out is, to a certain extent, real; and that the same cause which renders one or other cutaneous disease more likely in any particular case, *has a tendency to give* the assigned character to the antecedent primary sore. But I see no reason for believing that cause to be a difference in the matter of infection; I rather conceive it to be some difference, and probably one of a temporary nature, in the habit of the party infected. Such an hypothesis appears to me nccessary, or certainly the best that can be adopted, to explain the exceptions which exist to the associations pointed out by Sir R. Carmichael — exceptions so numerous as, in my opinion, completely to do away with the notion that those associations are essential ones. The exceptions to which I refer appear in facts which have been already narrated—cases of psoriasis following common excoriation and unindurated chancre, given on my own authority; cases of papular disease, quoted from Mr. Rose, in which that form was preceded by indurated primary ulcer; and one case, at least, certainly, and others, again, of those given by myself in which it was highly probable, that the sore preceding ulcerative disease was not phagedcnic.

To those who may remain disposed still to adhere to Sir R. Carmichael's hypothesis, and to view the exceptions as cases in which peculiarity of constitution has interfered, to modify and confound the distinctive characters of the effects of different poisons, I would suggest the consideration of other facts in the entire case.

In the first place, I have shewn, by direct experiment, (page 246) that inoculation from a phagadenic sore of the penis, upon a distant part of the cutaneous surface of the patient, may produce a ciricular sore with all the characters of chancre.

Secondly, I have found that the matter of an indurated chancre passed by absorption through a bubo, and taken from the bubo, and used to inoculate, the same patient, may produce not an unindurated chancre, but a chancre with the utmost degree of cartilaginous induration. This, indeed, is not stated at page 322, where the case referred to is given; for then the fact did not exist; but afterwards, the artificial chancre there spoken of made remarkable progress, and assumed (which I conclude the others I have witnessed had not done for want of time, having been early destroyed by caustic), the extreme induration which M. Ricord observed in his artificial chancres. The sore was, indeed, a very remarkable study; it was entirely without pain, unless pressed; circular; altogether lower than the skin, as if the entire thickness of the latter had been removed by ulceration; slightly dished or excavated; the surface red, and secreting pus, hollowed into numerons little irregular excavations; the zone of skin, immediately surrounding it, raised into a hard red cartilaginous convex collar; and its free edge, or that towards the ulcer, hemmed as it were by a narrow line, flatten and sunk a little, where, from the undermining ulceration, the cartilaginous border, for that extent, had lost something of its support.

Thirdly, in one instance that has fallen under my own observation, a wife, infected by her husband, has had indurated chancre and excoriated throat, and no other symptoms; her husband becoming the same time my patient with virulent cutaneous ulcerative disease, and having on the penis such extensive and irregular cicatrices, as makes it probable the primary disease with him was phagedenic.

Fourthly, I would add, as perfecting the conclusiveness of this body of evidence, that the connexion of excoriated throat, which I have pointed out to exist indifferently, with either and each of these three forms of disease; the occurrence of iritis indifferently with each, of nocturnal pains and of loss of hair, to-

gether with periosteal inflammation, collectively add strength to the belief that the disease is *one alone*, and that its diversities are accidental only, in the sense of depending upon no other cause than accidents of the habit of body of the persons infected.

SIPHILITIC AFFECTIONS OF THE FAUCES.—It has been mentioned that siphilitic affections of the throat present four different characters,—excoriation, superficial ulceration, excavated ulcer, sloughing ulcer.

I. EXCORIATION OF THE MUCOUS MEMBRANE OF THE FAUCES AND NOSTRILS has been already described (p. 348,) in connexion with siphilitic psoriasis of the skin, to which it is most allied in appearance and progress; but it equally attends the lichenous variety of secondary siphilis; and it is met with in the advanced stages of the ulcerative. It manifests itself in patches, which are alternately raw and covered with a moist scale of thickened epithelium, on the tonsils, the arches of the palate, and the pharynx, on the tongue, the inside of the cheeks, of the lips, and of the nostrils. The tonsils, when so affected, are at the same time swollen; sometimes in such a manner that the projections of the surface cause deep fissures, the sides of which are often mistaken for ulcers. Mr. Hunter appears to have had the affection, I am now describing in view in this passage: "there is another discase of these parts, which is, an indolent tumefaction of the tonsils, and is peculiar to many people whose constitutions have something of scrofula in them, producing a thickness of the speech. Sometimes the coagulable lymph is thrown out upon the surface, and called by some, ulcers, others sloughs." Mr. Hunter, however, did not consider this appearance venereal. Mr. Babington, who is evidently familiar with the siphilitic excoriation which I have described, does not separate, it, however, from the next form I have to speak of; likewise he says of it, "it cannot be denied that in the majority of cases it is not venereal; that very often mercury aggravates, instead of removing it; that it may takes place where there is no suspicion of siphilis in patients labouring under psoriasis or lepra; and that, in general, the presumption is so far against its venereal origin, that the treatment should be rather directed to the regulation of the diet, and to the prevention of acid secretions in the stomach, than to the extirpation of the venereal virus."

II. SUPERFICIAL ULCERATION OF THE MUCOUS MEMBRANE OF THE FAUCES.—Mr. Hunter says, "there is another complaint of those parts, which is often taken for venereal, which is an ulcerous excoriation, where the ulceration or excoriations run along the surface of the parts, becoming very broad and sometimes foul, having a regular termination, but never going deep into the substance of the parts, as the venereal ulcer does. There is no part of the mouth exempt from this ulcerous excoriation, but I think it is most frequent about the root of the uvula, and spreads forward along the palatum molle." Mr. Hunter adds, "that such are not venereal, is evident from their not giving way in general to mercury; and I have seen them continue for weeks without altering, and a true venereal ulcer appear upon the centre of the excoriated part." This appearance, however, I have several times seen, in genuine siphilis, spread over half of the soft palate, with the character of superficial phagedenic ulceration, that is to say, the greater part of the ulcer has been covered with granulations, but a yellow surface has existed towards the margin of the ulcer, the mucous membrane adjoining being a a bright red.

One is very liable in the study of disease to run after, and to be misled by, trivial analogies; but I will nevertheless mention that I have twice seen this form of sore throat in connection with non-ulcerative lepra;—there is some resemblance in appearance between the superficial spreading ulcer of the throat, and the spreading circle of lepra on the skin, the action in each being developed at the circumference, subsiding within, which connecting it with the disposition of lepra to ulceration, would lead one to identify the two as one, acting on different surfaces.

III. EXCAVATED ULCER.—The ordinary seat of the excavated ulcer is the tonsil, which, with the adjacent parts of the palate, is swollen, and of a more or less bright red: the ulcer is a deep hole, with an abrupt edge, generally presenting a foul yellow, or a dirty white surface; but much less frequently the surface of the excavation has a brownish red colour. Mr. Hunter says, "the true venereal ulcer of the throat is, perhaps

the least liable to be mistaken of any of the forms of the disease. It is a fair loss of substance, part being dug out, as it were, from the body of the tonsil, with a determined edge, and is commonly very foul, having thick white matter adhering to it like a slough, which cannot be washed away." The soft palate is liable to be attacked with the same character of ulceration, and a great part of it is often thus permanently destroyed. The ulceration may extend to the pharynx, and, in the latter case, a singular result ensues upon the cicatrization of the ulcers; the remains of the soft palate often coalesce with the cicatrizing pharynx, so as to be permanently stretched across the posterior aperture of the nostrils. Nasal breathing is not, however, put an end to, one or two oval holes being left in the velum for the purpose. The nasal character of the voice which attends ulceration of the soft palate, is thus rendered permanent. Excavated ulcers often originate upon the back of the pharynx. Mr. Carmichael notices the remarkable whitish appearance of their surface; this has appeared to me to result from their being covered with the mucus of the upper part of the pharynx and nostrils.

IV. Slouhing ulcer. — In sloughing venereal ulcers the mucous membrane is of a dark red, and much swollen, the uvula large, long, and relaxed, the ulcer covered with ashen or yellowish-black slough, the margin of the ulcer here and there livid. In the spread of the sloughing process upon the side of the pharynx, the lingual artery is liable to be opened and several cases have occurred in which fatal hæmorrhage was the consequence. I have met with one case of this description. A patient was admitted, in the evening, into the Middlesex Hospital, faint from hæmorrhage: the following morning, early, arterial hæmorrhage returned with great violence; this stopped on the patient becoming faint, and upon the house-surgeon, Mr. Laidlaw, making pressure upon the common carotids. Upon examining the fauces, I found sloughing ulceration of both tonsils, both being partially covered with adhering clotted blood, and I had some difficulty in making out from which side the hæmorrhage came. I then applied a ligature to the common carotid on that side; and the patient recovered. Between three and four years aftewards, this patient died in the Middlesex Hospital of consumption, which gave me the opportunity of ascertaining that the hæmorrhage had proceeded from the lingual artery. It is necessary, in such cases, to tie the carotid, as it is impossible to be certain from which of its branches the bleeding proceeds.

The four varieties of sore-throat which have been described are truly siphilitic, for they occur in conjunction with other siphilitic symptoms, and are cured by the same remedies. Nevertheless they are each occasionally met with dissociated from siphilis, as accidental results of disordered health. One of the best-marked instances that I have met with of sore-throat resembling siphilitic ulceration occurred in the person of a medical student whom I saw in October last with two other surgeons, and with them recognized the deep, abrupt, and extensive excavation of the inflamed and swollen, and its foul yellow surface, as presenting every feature of a venereal sore-throat; but I thought it was not of that nature: the patient, though not in full health, and having a few pimples on his forehead, denied ever having had chancre or excoriation; and although the ulcer had been progressing, it was remarkable that the other tonsil was not even inflamed. He was ordered to take two or three doses of aperient medicine without calomel, and to live exactly as usual. In three or four days the appearance of the tonsil had improved, the ulcer soon entirely healed, and he remains in perfect health.

Of the four varieties specified it is difficult to say which is most characteristically siphilitic. The excavated ulcer is commonly represented as the true venereal sore-throat; but the excoriated form is more frequent in the proportion of twenty cases to one of genuine secondary siphilis. Another reason for considering the excoriated form as the most genuine is, that it goes with every variety of siphilitic cutaneous disease, whereas the ulcerative forms are seldom met with (combined) except with the forms of cutaneous disease that lead to cutaneous ulceration.

Excoriation of the throat and fauces, although it may be troublesome, is never a serious malady; and siphilitic ulceration of the throat, it has been mentioned, is seldom virulent in the cases in which much skin disease is developed. When in association, therefore, with the forms of lues already described, sore-

throat is in general a subordinate matter. Our attention may therefore be undividedly turned to affections of the throat existing substantively, themselves forming the whole or the principal outbreak of the disease. The local means to be employed in this class of cases may equally be resorted to when sore-throat makes head in conjunction with other symptoms. Excoriation of the throat and fauces occasionally is the first, as it is liable to be the only, symptom manifested. After existing some weeks or months alone, it is often followed by psoriasis. Sometimes, after psoriasis has disappeared, excoriation of the throat that began with it lingers for months. This affection will generally temporarily disappear under the use of the compound decoction of sarsaparilla, alone, or combined with liquor potassæ, or with the iodide of potassium in small doses. Such a course may be continued for a fortnight, and ought to be prescribed, if the throat is sore enough to produce uneasiness, or if the patient appears suffering in health. A fortnight's alterative course of mercury, an eighth of a grain of the oxymuriate, for instance, in a pill, three times a day, is extremely efficient in repelling this form of the disease. No local treatment is requisite; but the excoriated patches are always better for a day or two, after being touched with a solution of nitrate of silver.

Superficial ulceration of the throat is brief in duration, and a less frequent malady than the preceding. It is likewise more painful, so that in addition to the antiphlogistic medicines given, it is desirable to use some active local application. One of the most beneficial is a solution of the oxymuriate of mercury in decoction of bark, a grain to the ounce.

The common seat of superficial ulceration of the fauces is the surface of the soft palate. The excavated and sloughing ulcers more commonly occupy the tonsils and the pharynx; but they may involve, as it has been mentioned, the soft palate. Sometimes ulceration takes place upon the posterior margin of one of the posterior arches of the palate, and can only be brought into view by drawing the edge of the arch forwards and outwards. When the soft palate is the seat of ulceration its function is impaired, and the voice is rendered nasal. In the act of swallowing, some of the food is liable to pass into the posterior nares. The excavated and the sloughing ulcer are remarkably influenced by mercury locally applied. The most efficient practice is to fumigate with cinnabar or the nitric oxide. Under these agents the ulcer will often become clean in the course of three or four days. When the excavated ulcer is in a less virulent state, and chronic rather than actively progressive, the application of the nitrate of silver, either in substance or in solution, will generally heal it. Other applications that are useful are gargles containing the linimentum æruginis, or honey, with the white precipitate of mercury mixed in it, applied on a probe, or the yellow wash so applied, and the like. Sometimes, when the venereal character of the ulceration has subsided, its seat having been the soft palate, there is left a large hole through it, perhaps an inch in length, with a granulating edge. If this is left to itself the edge will cicatrize, and the hole be permanent, interfering with speech and deglutition. But if its edges are kept sore by repeated applications of lunar caustic, they will draw together, and the hole will certainly close. To some cases of fissure left by siphilitic ulceration, staphyloraphe is applicable.

Excavated ulcer of the throat yields readily either to the iodide of potassium or to mercury. The former remedy, on the grounds already explained, is generally to be preferred. Sloughing ulcer of the tonsils and pharynx is liable to be attended with considerable depression, a frequent irritable pulse, and profuse perspirations. In this case, as general means, stimulants, with light nutriment, wine with arrow-root, brandy with yelk of egg, are appropriate; and as an antisiphilitic remedy, bark with nitric acid, if it can be swallowed.

It is hardly worth while to illustrate the preceding rules by cases, but I will add three, the first to exemplify what is commonly considered the genuine siphilitic sore-throat doing well with the iodide of potassium; the second to exemplify the efficacy of mercury in subduing a last outbreak of the disease, or in extinguishing it; the third, extracted from a publication, some years ago, by a most judicious surgeon well acquainted with this malady, in which, the complaint being virulent, the effi-

cacy of mercury in repelling, and its total inadequacy to eradicate the disease, are equally and strikingly shown.

John Moore, aged 28, some months ago, had a discharge and two sores on penis, for which he took two pills for two months daily, and the sores healed; his mouth was sore during great part of that time; the sores have occasionally broke out afresh, and are now again open; they consist now of depressed cicatrices, of which the rounded irregular edges are red and raw, the bottom whitish, both discharging. At the end of November, having been exposed to wet and cold, his throat became sore; he applied at the Middlesex Hospital for advice, Dec. 10, 1839. The only secondary symptom present is excavated ulcer of both tonsils, which are inflamed and considerably swollen; the ulcers appear to have eaten away half the substance of each tonsil; the surface of each is foul and yellow. Ten grains of iodide of potassium, in decoction of sarsaparilla, ordered three times a day. I saw him on the 17th again, when his throat, brief as the time was, had already greatly improved: part of the surface of each ulcer was beginning to granulate, the central part having still a yellow layer of secretion, like a slough, adhering, undetached from it.

A young gentleman returned from India with a constitution broken by siphilis and mercury. The pharynx was in a state of ulceration. On the right side of the forehead, and on the left cheek-bone, there was swelling and tenderness of the periosteum. One testis had suppurated, but had healed: the other was enlarged. During the first two months after his return he took successively sarsaparilla with liquor potassæ, sarsaparilla with Plummer's pill, quinine with sulphuric acid. He became more attenuated, with night-sweats, and loss of appetite. The tender spot on the forehead became red and then ulcerated: the testis suppurated, and a fungus, like that of scrofulous testis, followed. At this period he commenced the use of the iodide of potassium: in a short time there was a visible improvement; he gradually recovered. For some months afterwards he appeared in perfect health, having regained his flesh and strength; but then ulceration of the throat returned in the most virulent form, affecting both the soft palate and pharynx. He then fell under other hands, and was submitted to a severe course of mercury; through which he was again cured of the ulcer in the throat. He has since had no return of the disease.

"J. N. had considerable excoriation that for the most part readily healed, but left thickening and discoloration about the frænum, soon ulcerating, and now exhibiting a raw-rough and tawny surface, elevated on a white cartilaginous button, and secreting a thin and reddish matter. It was attended with dull pain, and gradually but slowly enlarged: mercury was given so as to affect the throat for eighteen days, the sore having been healed and the hardness dispersed some time before the end of the course. The health was rather disturbed than improved. In a fortnight he complained of uneasiness of the throat, and went to the sea-side. Returning, after a month, he said that the throat had continued to annoy him, though slightly. On examination, there was seen to be an excavated fissure in each tonsil, deep, and of a brownish red surface. The surrounding inflammation was not great, nor the pain severe. He had one patch of siphilitic lepra on the thigh, a few encrusted spots on the scalp, and pains about the head of the fibula, and the pains increased at night, pulse much accelerated, skin pale, and system haggard. Sarsaparilla was given, rapid improvement took place, and the ulcers healed in three weeks. In about two weeks from the omission of sarsaparilla, there appeared a crop of siphilitic psoriasis, thick about the scalp and forehead, and upper part of the thighs; some encrusted spots were visible in the eyebrows and beard, and there were some external pains of the head, and incipient disease of throat. It was now determined, in consultation, to adopt mercury for eight weeks, and to keep the mouth, during that period, tender. The symptoms directly improved, and soon got well, nor was the health disturbed, except for a few days, when the mercury was omitted and soon resumed. He again went to the sea-side, but returned in twelve days from the discontinuing of mercury with a sloughing fissure in the tonsil. He had great disturbance of his health, and considerable inflammation of the fauces. All

again became tranquil, under the use of sarsaparilla for a time, but the disease of the throat relapsed, and became rapidly progressive. Its extension, after some delay, was so threatening that an active and prompt influenee of mercury was deemed indispensable. The mouth was quickly affected, the mischief was as quickly checked, the sloughs were thrown off, the healing was tedious, but the patient remained free from siphilitic symptoms during ten weeks of severe inunction. Within three weeks after the omission of mercury he had a fresh relapse.

Siphilitic affections of the nostrils bear an affinity to those of the throat and fauces. It has been already mentioned that excoriation of the mucous lining of the nose is met with in conjunction with excoriations of the mouth and psoriasis of the skin, and that it is extremely common. Superficial ulceration is less frequent; and though I have seen it upon the septum of the nostrils, and have eured it by the local application of the black wash and the internal exhibition of sarsaparilla and liquor potassæ, I have not met with a case of this description, in which I have ascertained its siphilitic origin. I presume, however, that those instances in which there is discharge of purulent mucus from the nose, and inward sores, which seem to threaten caries of the spongy bones, but not followed by exfoliation, are often of this nature. Siphilitie ulceration occasionally excavates and eats through the cartilaginous septum of the nose, which it destroys; this is the source of the remarkable disfigurement, in which the lower part of the nose falls in. The extreme disfigurement produced by loss of great part of the nose through siphilis admits of improvement by means of the rhinoplastic operation, which, however, must be delayed till time has shown that the siphilitie taint is extinct. A man applied to me to make him a new nose, on account of an extensive cicatrix from former ulceration on the old one, the end of which was likewise remarkably abrupt and snubbed. I assured him that his nose was not materially disfigured, but that his forehead would be very much so the operation he wished, and that the nose I could make him would not be so good as the present; and I refused to comply with his wishes; on pressing me further, I observed, in jest, that if he wished me to make him a new nose, he must cut off the old one; "I have already done so," he replied; and the snubbed end, I found, was the result of his having amputated, with a razor, the extreme tip of his nose, to qualify it for the surgeon's hands. I need not say that I refused his request, and endeavoured to make him sensible of its folly; but he found another surgeon more to his mind, who cut off his old nose, and made him a new one; luckily for whom the poor man died shortly afterwards, before he had recovered from his hallucination.

[To be continued.]

TREATMENT OF VARICOSE ULCERS.

To the Editor of the Medical Gazette.

Sir,

It is now some time since the plan of treating varicose ulcers, by the insertion of needles under them, was introduced as far as I remember, by M. Velpeau*; and as this mode of cure does not seem to have been generally taken up by English surgeons, the following results, in a few cases, may not be uninteresting to your readers.

At the Chichester Infirmary, during the last twelve months, eleven cases have been treated, by the insertion of one or more needles under the vein, and the application of the twisted ligature. Of these, ten have been entirely successful, in remedying the varicose state of the veins, and healing the accompanying ulcer. One was unsuccessful, the varicose state of the superficial veins being cured by the obliteration of those that were so affected, but the ulcers still continuing. In three cases troublesome symptoms occurred from the application of the needles. In one of these, the patient complained of severe pain in the sole of the foot. In the second, ulceration followed the introduction of the needles, but the cure was ultimately complete. In the third, inflammation of the veins occurred, which however readily yielded to treatment.

The following is a summary account of the eleven cases:—

* I have not kept a memorandum of the source from which I derived the practice, nor can I now find it, though I think it was from M. Velpeau.

No.	Name.	Age.	Duration of the Ulcers.	No. of Needles inserted.	Result.	Duration of Treatment.
1	John Downham	49	16 years	5	cured	7 weeks
2	Eliza Luffe	33	9 years	1	cured	7 weeks
3	Do. readmitted for an ulcer on the other leg	33	9 years	2	cured	5 weeks
4	Redman Mary	59	20 years	1	cured	5 weeks
5	Henry Herman	49	15 years	1	cured	4 weeks
6	Wm. Barnes	44	many years	5	uncured	
7	Richard Dyer	55	2 months	3	cured	3 months
8	Sarah Luffe	28	1 month	2	cured	4 weeks
9	Martha Puddick	38	13 years	2	cured	7 weeks
10	Sarah Pullen	58	no ulcer	5	cured	4 weeks
11	James Dawson	52	several years	2	cured	5 weeks

The cure of varices, and of the troublesome ulcers so frequently connected with them, seems still to remain a matter of important and interesting investigation. The disease, notwithstanding the efforts of many of the first surgeons, still continues the opprobrium of surgery, and well will he deserve of society who shall discover a safe yet effectual remedy for an evil, which, trifling as it may appear, yet we doubt not, if the numbers suffering from it, and the amount of inconvenience endured, be taken into account, will rank high in the list of human afflictions. Of the various operations, and modes of treatment, which have from time to time been recommended, I shall say little now, since my object is not at present to produce a dissertation on the disease in question, but to call the attention of the profession to a plan of treatment which seems, not to have been duly appreciated hitherto in England. I will merely enumerate, as remedies which seemed to be retained, only for want of some more efficient—1, compression either by bandages or by a vice and screw, as used by M. Breschet; 2, acupuncturation of the vein, as recommended by M. Bonnet; 3, incision, in its various forms, as performed by Brodie, Travers, Richerand, &c.; 4, Excision, as directed by Dionis and performed by Home, Beclard, and others, or the modification proposed by M. Ricord. These (not to mention the cautery, actual and potential, now only remembered as having been once on the list of remedies) have had their trials, and are acknowledged by all to be occasionally successful, but frequently productive of great inconvenience, and not seldom of danger, from inflammation spreading up the vein. The plan of treatment which is the subject of this communication was first recommended, as far as I know, by M. Velpeau. It consists in passing a needle, (I prefer a flat one, slightly curved at the point, such as is used in inspections,) through the integument, a little to one side of the vein, taking care that it shall go under the vessel without wounding it, and bringing it out at the same distance, on the opposite side. A waxed silk ligature is then passed round the projecting ends of the needle, in form of a figure 8, just as it is applied in hare-lip. The projecting point of the needle is guarded by a little bit of cork, to prevent its catching in the clothes, or injuring the other leg. Very slight pressure is sufficient to accomplish the object to be gained by the ligature, therefore it need not be drawn tighter than is necessary to obstruct the circulation through the vein. In about from twenty-four to thirty-six hours, inflammation is excited in the immediate neighbourhood of the ligature, which goes on increasing slowly while the needle remains. As this inflammation is the effective means of cure, by producing permanent obstruction to the flow of blood through the vein, and obliterating the cavity of this vessel, it is obvious that it should be allowed to proceed just so far, and no further, than is necessary for the accomplishment of this object, and that the length of time which the needle is allowed to remain must be entirely regulated by this. My colleague, Mr. Duke, and I, have generally found that from four to eight days have been sufficient to effect our object, though the exact time must of

course vary, according to the nature of the individual constitution, and its aptitude in taking up the inflammatory action. I am guided by the appearance of the local inflammatory symptoms, and by the fact of the commencement of ulceration, at the spot of the skin, where the needles pieree it. If this has begun, it is time to remove the needle, and generally speaking enough inflammation is found to follow, for the sealing up of the vein. If ulceration has not taken place when the needle is withdrawn, it is generally necessary to repeat the operation, from the eirculation being renewed through the diseased vessel. At the same time it is neeessary to be careful not to allow the process of ulceration round the needle to remain in aetion long, as, from this cause, in one case, troublesome ulcers resulted in this very spot, though the sore, for which the practice was adopted, was cured. I have not found this to occur when the above precaution was adopted. The only adjuvant treatment that has generally been required, is low diet, recumbent position, and when the needles are withdrawn, the application of the warm-water dressing. Should the inflammation appear more than needful, of eourse the treatment would be modified as eircumstances arise.*

The time required for the eure must of course vary much, according to the peculiarities of the ease, from the habit of the individual, or the nature of the disease. In all the eases, but one, that we have treated, there was an uleer eonnected with the diseased veins, but the duration of the treatmeut seemed to be not at all influenced by the previous duration of the ulcer, or indeed, of the diseased state of vein, as will be seen by reference to the table. If the system bore the operation kindly, and too great irritation and inflammation was not set up, the cure generally proeeeded rapidly, and was always effeetual, and permanent, if the treatment was earried to a proper extent. The shortest period required in any of our eases, for the completionof the cure, was three weeks; the longest seven weeks. The one ease, which was of simple varicose veins, without an ulcer, had them immensely enlarged, and acutely painful and tender, and apparently ready to burst, so that the patient was unable to attend to her duties. Four weeks were here sufficient to make a permament cure, the affected veins being reduced to a hard eord.

With regard to the number of needles necessary to be applied, though one was sometimes found to accomplish the obliteration of the vein, yet it was found a more effectual plan, and not productive of more after-suffering, to insert two under the same vein, at about two inches distance apart, though it is not always that the enlargement of the vein offers sufficient length for this. Where, however, it does, the obstruction produced by the two needles is more certain, and more effectual, without any greater risk, as far as my experience goes, of injurious effect to the vein. In some cases the ulcer does not yield, or yields only partially, to the application of the remedy to one vein, and then it is necessary to take up a second, or even a third, found in its vicinity. In one instance an enormous ulcer was rapidly reduced to about a fourth of its size by the obliteration of one vein; but though five needles were at different times inserted, and effeetually, as regards the obstruction of the veins, yet the ulcer was never effectually eured. In the ease of varicose veins, unaecompanied by ulcer, Mr. Shute, the house-surgeon, under whose care it was, inserted, at the same time, five needles; two upon the principal branch, and three others upon branches in the immediate neighbourhood, which communicated with it. Some erysipelatous inflammation was exeited, which readily yielded on the removal of the needles, on the eighth day. The number of needles, however, which we employed in most of our cases was two.

The rapidity with which the eurative effect upon the ulcer displayed itself was surprising. In twenty-four hours the commencement of eicatrization was seen, in one instance, and in forty-eight hours the tender cuticle had more than half eovered the granulations. This was not, however, so strikingly the ease in every instance, though in all the progress was satisfactory. I observed, however, that the latter stages of healing were not commensurate with the earlier, in the progress of cure being much slower, and, in one instance, re-

* It will be perceived that the principle, upon which this plan of treatment proceeds is essentially different from that adopted by Mr. Melvin, see MED. GAZ. vol 22, pp. 612. 707; also vol 23, p. 18. His plan is, to occasion the division of the vein, by making the needles ulcerate through; a practice much more severe, and I should fear, much more dangerous, than that which I have followed.

maining stationary, after being readily reduced to about a fourth of its former size.

I was struck with the appearance of the cicatrix in all these cases. Instead of the reddish tender-looking cicatrix, which we usually find after a recently healed ulcer, I observed that after the application of the needles the resulting cicatrix had, in the course of a few days after its formation, the firm whitish appearance of one of considerable standing, and even a scar of an old wound, in the neighbourhood of the ulcer under treatment, had its appearance modified, in becoming clean and free from a scaly incrustation, and assuming the white fine appearance of a healthy cicatrix.

I will not now, sir, occupy your space more, than by stating that in estimating the value of the above observations, it should be remembered that though the number of cases was only eleven, yet the number of needles inserted was 29, and as each of these forms a direct and distinct testimony to the safety of the practice, I cannot but hope that the cases I have related may have some weight with the profession, in inducing them to make more extensive trial of so simple and, on the whole, so effectual a remedy for a most distressing malady.

I am, sir,

Yours obediently,

A. T. S. Dodd,

Surgeon to the Chichester Infirmary,

Chichester, Nov. 30, 1839.

PRESERVATION OF BODIES FOR DISSECTION.

To the Editor of the Medical Gazette.

Sir,

Having lately observed in the Medical Gazette an account of some experiments performed by Drs. Babington and Rees, with the view of preserving the human body for the purposes of dissection, a desideratum, which, if attainable, would be of no small moment, not only to the student of anatomy, but also to the practical anatomist; however, the last and best of the experiments described by these gentlemen, appear to be so much loaded with trouble and expense, as to prevent its ever becoming generally useful to either the one or the other.

Permit me, therefore, through your means, to offer to those who desire it, a much more simple, a far less expensive, and equally efficacious remedy for this purpose. When the body is first received into the dissecting-room it must be punctured over the whole surface with acupuncture needles, or the point of a narrow bistoury, scalpel, or scissors, the punctures being made pretty closely together, and deeply over the fleshy part; and, if for a dried arterial or venous preservation, the punctures ought to be made with very fine needles, and after injection; as, if done with bistoury or scissors, the wax, when exposed to heat, exudes from the punctures made in the vessels.

This being done, the body is brushed over with acetic acid—specific gravity 1·048, which must be brushed into it slowly and repeatedly, so that the acid may fully penetrate the innermost parts; a small incision may likewise be made in the thoracic and abdominal parietes, through which a sufficiency of the acid, slightly mixed with water, may be poured.

Repeating the application of the acid to the surface of the body, for six or eight days, will not only preserve it free from putrefaction, but, at the same time, remove incipient greenness, and every species of odour, except the pungent, yet volatile odour of the acid, which, I should think, could be easily borne by the most fastidious student.

The only trials as yet made in the above way, have been, 1st, Catharine Daimond, courtesan, aged 26, cause of death not known, brought into the University dissecting-room on the 18th of May, three days after death, where, being Saturday night, the body lay till Monday morning, when it was placed in warm water for the purpose of arterial injection; after the body had become cold it was punctured with a pair of scissors, then brushed with the acid, as already mentioned; and by night the body (and during the day those parts not being dissected) was covered with damp cloths to prevent evaporation and consequent dryness: after three brushings, the abdominal muscles, which had become perfectly green, were restored to a fine natural colour; and the abdominal cavity, into which the diluted acid had been poured, though not opened for twenty-four days, was quite free from odour or the slightest appearance of putrefaction. The body remained on the table from the 18th of May till the

4th of July, fully exposed to the heat of a powerful sun in a room well lighted from the roof; and had it been necessary, by the same means it might have been preserved soft and beautiful throughout the warmest summer.

2d, John M'Caskle, labourer, aged 45, died 4th of November, in the Royal Infirmary, where the body had been inspected, received into the University dissecting-room on the 6th, where the body lay till the 16th, when the whole of the face, trunk, and upper extremities, became altogether green, and fast tending towards decomposition. On the 16th the discoloured parts were closely punctured with a pair of scissors, and three gills of acetic acid slowly brushed thereon; damp cloths were then placed upon the parts till the 18th, when the acid was again applied. On the 19th the remainder (altogether five gills) of the acid was used, and on the 20th the whole of the parts into which the acid had been brushed were perfectly restored to whiteness; and, indeed, the changed colour of the parts could be easily perceived after each application of the acid, more especially when the cloths were moistened with the acid, and closely applied to the parts.

The dissection of the body was commenced on the 20th November; and, on removing the skin of the face, neck, trunk, &c. small portions of the muscles of the trunk and upper extremities were a little green, but they were firm, and wholly free from odour, which last circumstance formed a broad contrast to the smell of the cranial cavity, where none of the acid had been used; the muscles of the face and neck having undergone less change, were entirely free from colour.

The punctures made in the skin, when large, give the body a somewhat odd appearance, but beyond this they are harmless, as the subjacent parts are thereby not at all injured for common anatomical pursuits; yet, if the cloths are wetted with equal parts of acid and water, and closely applied to the body, the finest long needles may be used; by this means the punctures are hardly perceptible, and two days' application in this way will beautify any subject.

The second subject was undergoing dissolution so rapidly that no student thought it worthy of dissection; however, on beholding the magical influence of the acid in restoring the natural colour and removing incipient putridity, the parts so improved were eagerly sought after.

For the above method of using the acid I am indebted to a pupil of my own, Mr. Daniel Wilson, of the Royal Navy, who, having formerly witnessed my many fruitless and expensive attempts to preserve the body, even for a short period of time, by injecting it with pyroligneous acid; and, moreover, having seen the antiseptic virtues of this acid fully and beneficially tested within the tropics, by preserving recently-killed animal food for an indefinite length of time, was induced to give it a trial, in the manner now described, and the trouble, as already mentioned, was very trifling; and the expense did not exceed, in the first instance, five shillings, in the second, little more than two, although buying the acid at the retail price.

By allowing the above to occupy a spare corner in your valuable journal, you will greatly oblige, sir,

Your obedient servant,

THOS. MARSHALL, M.D.
Demonst. of Anat. Glas. Univ.
1, North Hanover Street, Glasgow,
Dec. 5, 1839.

CONTRIBUTIONS TO THE COMPARATIVE ANATOMY OF THE BLOOD-DISCS, OR RED PARTICLES OF THE VERTEBRATE ANIMALS.

By RICHARD OWEN, Esq. F.R.S. &c.

No. II.

[*For the London Medical Gazette.*]

Class, MAMMALIA.

Order, *Feræ*. The tiger (*Felis Tigris*), full-grown male.

——— *Marsupialia*. Spotted dasyure (*Dasyurus viverrinus*). Long-eared bandicoot (*Perameles Lagotis.*)

——— *Ruminantia*. Vicugna (*Auchenia Vicunna*), nearly full-grown male. Cheorotain (*Moschus pygmæns*), full-grown.

Class, AVES.

Cassowary (*Casuarius Javanicus*), full-grown.

Class, REPTILIA.

Monitor (*Monitor indicus*), full-grown.

Tiger.—The general results of the examination of the blood-discs of the

strictly carnivorous Mammalia, obtained by Prevost and Dumas, Professors Müller and Wagner, have shewn that they are intermediate in size between those of the omnivorous species, and those of the strictly vegetable feeders: they are smaller, for example, than those of Man and the Quadrumana, and larger than those of the Ruminantia. Hitherto, however, as regards the typical Carnivora, only the blood-discs of the smaller species of *Felis* have been examined; the average size of those of the common cat being, according to my observations, 1-6500th of an English inch. In the tiger the blood-discs, though averaging a somewhat larger size, are much less than those of the human subject; taking the average diameter of the latter at 1-3500th of an inch. They present the form usual in the Mammalia, and a greater uniformity of size than in Man: very few of the blood-discs were granulated; but those which offered this modification of form were observed while they were recent, and floating in the serum. Mr. Bowerbank, to whom I submitted portions of the recent blood of the several species above named, has favoured me with the following results of the admeasurements, taken by his screw micrometer, of five different sized discs of the tiger, including the two extremes:—

Fractions of an Inch.
4608
4878
5208
5774
6250

Average diameter, 5343

Dasyurus.—The blood-discs of this small carnivorous Marsupial were sensibly larger than those of the analogous placental Mammalia. The number of the granulated discs was considerable; many of them presented a well-defined margin, notched like a cog-wheel; the others had the ordinary unbroken contour. All were circular and flattened, with the extremities, when viewed edgewise, less abruptly truncated than in the human blood-discs. The average diameter obtained by me was 1-4200th of an inch.

Mr. Bowerbank gives the following admeasurements of five blood-discs of the dasyurus, including the two extremes:—

Fractions of an Inch.
3633
3817
4204
4273
4504

Average diameter, 4092

Perameles.—The blood of this Marsupial, which was examined while recently drawn from the living animal, and under the same circumstances as that of the tiger and dasyure, presented a still greater number of the granulated blood-discs, mixed with others of the ordinary form. In some of the former the subdivisions producing the granulated appearance were fewer and larger, and were separated by deeper clefts than I had before observed; they suggested the idea that the blood-disc was undergoing a spontaneous subdivision into smaller vesicles; and although my observations are not at present sufficiently numerous to warrant the hypothesis that the development of smaller vesicles within itself is a normal property of the ordinary coloured vesicle or blood-disc, yet the obscurity which still hangs over the origin and reproduction of the blood-discs, and the unexpected constancy of the granulated form in a greater or less proportion of them, while recent, and floating in the serum, in the different species examined, makes me unwilling to suppress an idea, naturally arising out of such observations, and likely to be suggestive of examination of the same appearances by other microscopical observers. The general form of the blood-discs of the perameles is circular and flattened: they present a greater variety of size than in the dasyure, but have upon the whole a larger average diameter.

Mr. Bowerbank took the following admeasurements of six of the blood-discs of the pyrameles, including the two extremes of size:—

Fractions of an Inch.
2273
2833
3668
4348
4831
5434

Average diameter, 3948

In the labiated Kangaroo, the (average?) diameter of the blood-discs, according to MM. Milne Edwards and Mandl, is 1-5000th of an English inch.

The results of the present observations on the blood of other Marsupials correspond generally with those obtained from the placental Mammalia, inasmuch as the blood-discs of thé Marsupial species, which derives its nutriment from the greatest variety of organized substances, as the perameles, which subsists on insects, worms, and the farinaceous and succulent vegetables, are larger than those of the strictly carnivorous dasyure, and those of the herbivorous kangaroo; the blood-discs of the latter, like those of the placental Ruminant, being the smallest.

Vicugna. — The discovery, by Dr. Mandl, of the elliptical contour of the blood-discs of the dromedary and llama, was confirmed in my former communication, so far as regarded the blood of the dromedary. I have since ascertained that the elliptical form characterizes the blood-discs in both the llama and vicugna: there needed only the examination of the blood in the latter species to establish the fact that the camel tribe of Ruminants presents, among many other peculiarities of organization, the singular exception of a form of blood-disc which has hitherto been observed only in the oviparous Vertebrata*.

The blood-discs of the vicugna present a longer but somewhat narrower ellipse than those of the dromedary, their long diameter, according to my observations, being equal to the ordinary diameter of the human blood-discs.

Mr. Bowerbank has favoured me with the following careful admeasurements of three blood-discs of the vicugna, including the observed extremes of size:—

Fractions of an Inch.		
Long Diam.	Short Diam.	Thickness.
3237	8000	14706
3496	8928	14925
3597	8928	13699
Average, 3443	8619	14443

Most of the blood-discs present the form which gives the admeasurements of the second, in the preceding table; in a few the ellipse was wider, as in the first in the above table; but none of them presented the circular form.

Chevrotain.—The blood-discs of this, the smallest species species of the Ruminant order, presented, as I had anticipated, the minutest size hitherto observed in the vertebrate animals. They present, however, a well-defined circular flattened form.

Fractions af an Inch.
9533
12650
14200
14820
Average, 12800

Cassowary.—The blood-discs in this large Struthious bird have the usual elliptical compressed form, characteristic of the class; the nucleus was distinctly perceptible, but presented a narrower ellipse than the surrrounding vesicle.

Fractions of an Inch.			
Blood-disc.		Nucleus.	
Long Diam.	Short do.	Long Diam.	Sh. do.
1518	2591		
1639	2665		
1852	2632		
1992	2985	2812	7462
Average, 1750	2720		

Monitor.—Some difficulty was experienced in obtaining blood from this cold-blooded animal, and it was requisite to make, for that purpose, a pretty deep incision into the muscular substance of the leg. The form of the blood-disc was elliptical and very much compressed. The nucleus was very distinct. Many of the discs had the marginal contour slightly crenate, with lines converging to the nucleus. I have observed the same appearance in the blood-discs of the tortoise, which those of the monitor much resemble; they are smaller than the blood-discs of the naked or batrachian reptile, and thus conform to to the law enunciated by Professor Wagner, that in the Reptilia the blood-discs are the larger, the longer the branchial apparatus is retained: thus the blood-discs of the newt exceed those of the frog, and the blood-discs of the proteus, which are still larger, are visible to the naked eye.

Mr. Bowerbank carefully measured, at my request, four of the blood-discs of the monitor, including the two observed extremes, and the nuclei of two of the discs, with the following results:—

Blood-discs.		Nucleus.	
Long Diam.	Short do.	Long Diam.	Sh. do.
1136	1923		
1385	2164		
1129	1982	1749	8696
1348	2232	1992	6452
Average, 1249	2075	1871	7574

* Since these notes were transmitted to the Editor, I find that Mr. Gulliver has likewise recorded the same fact in his interesting comparison of the blood-discs and pus-globules of the Vicugna, read before the Medical and Chirurgical Society, Nov. 26, 1839.

OBSERVATIONS

ON THE

TREATMENT OF THE DYSENTERY OF THIS COUNTRY.

By H. M. Hughes, M.D.
Physician to the Surrey Dispensary.

[*For the Medical Gazette.*]

Dysentery, in its most rapidly fatal form, is rarely, if ever, witnessed in this country: nor has it, at least of late years, assumed the character of an epidemic, though I believe it not unfrequently makes considerable ravages as an endemic complaint in some part of Ireland, and though a few years ago it attacked a great number of persons among the poor population of Glasgow, I have never seen the disease either in tropical climates, or in camps, prisons, or ships, nor have I ever had an opportunity of observing it as an epidemic. As, therefore, the few succeeding remarks upon the treatment of the complaint are the result of personal observation, I wish it to be clearly understood *in limine*, that it is to neither the Indian nor epidemic disease that they are intended to apply, but that comparatively mild variety of the affection which is witnessed in this metropolis and its vicinity. I presume not therefore to deny, that in the most virulent forms of the disease, there exists an "inequilibrium of the balance of the circulation," or that it may not be desirable, or even necessary, by general bleeding, and other measures, to "restore healthy perspiration and biliary secretion with an equilibrium of the circulation and excitability."* Nor can I venture to assert, that under such circumstances, the administration of simple doses of calomel, three times a day, or of a combination of calomel, antimony, and opium, in such proportions that twenty-four grains of the first medicine may be taken in the day and night, may not be a highly judicious mode of treatment. I may however observe that, from what I have seen of the disease *in this country*, I should have supposed that such gigantic doses of powerful remedies, and particularly of calomel, were calculated to produce the complaint in persons already prodisposed, and to exasperate, rather than to cure it, where it already existed. In this I may be mistaken, and the affection in the two cases may be essentially distinct. When however it is recollected, that persons most intimately acquainted with the Indian and epidemic form of the disease differ so materially, both as to its nature and its cure, as that they should have been stated, "scarcely to agree in *any one article*, excepting the *name*," it is, I conceive, allowable even for one who is practically ignorant of its peculiar character, to doubt the expediency of any particular mode of treatment. Dr. Malcolmson, who appears to have seen much of the disease in India, distinctly and strongly condemns, in a valuable paper lately published in the "Edinburgh Medical and Surgical Journal," the large, indiscriminate, and long continued doses of calomel which are still administered by many practitioners in that country, and which, as he believes, not unfrequently produce irreparable, and even fatal mischief.

Dysentery has usually been presented to my observation in one of three forms. In the first, the individual affected has, after exposure to wet and cold, inordinate indulgence at the table, or taking some cold indigestible article of food, been rather suddenly attacked with pains in the lower part of the abdomen, occurring in paroxysms, and soon followed by an urgent desire, and frequent ineffectual attempts to empty the bowels, accompanied with violent straining, distressing tenesmus, and heat about the anus, little feculent matter, or but a few scybalæ have been discharged, and the scanty excretion resulting from so much painful effort, has principally consisted of gelatinous mucus mixed with blood, or more rarely with flakes, or masses of fibrin, or both. After the evacuation the griping has for a short time abated, or altogether ceased, but has returned in a few minutes or hours, (the interval varying according to the severity of the attack), to be again followed by heat, tenesmus, and the discharge of blood and mucus. There has been generally no superficial tenderness of the abdomen, but the pain has almost always been experienced on deep pressure being made in the course of the colon, particularly over the cæcal and descending portion. The tongue has been ordinarily moist, and coated with a dirty yellow fur, and has not presented

* Johnson on Atmosphere, &c.

the red tip and edges so constantly seen in common muco-enteritis; there has been little or no sickness; the pulse, though sometimes increased in frequency has not been materially altered in character, and the skin has been, for the most part, natural, both as to temperature and moisture.

The second form has presented the same general features as the first, but has been altogether a much milder complaint. It has been a troublesome, rather than a severe or dangerous affection, and has generally existed in persons of delicate constitution, feeble power, and sedentary habits, and by its long continuance, more than by the urgency of its symptoms, has materially injured the general health of the individuals in whom it has occurred. Those that have been mentioned have been purely indigenous diseases, and have attacked persons who have been constantly resident in this country. The third form, on the contrary, has been a chronic disease resulting from the effects of an acute attack within the tropics, and has appeared only in old soldiers or sailors, or other persons who at some former period of their lives had been stationed in, or had visited either the East or West Indies. The patient, after some not very severe griping pain, has passed, with slight tenesmus, from four to eight times in the twenty-four hours, a semifluid fæculent motion of the colour and consistence of fawn-coloured paint, to which has been sometimes added a little unmixed blood. Whatever may have been its remote or exciting cause, dysentery, in all these forms, has appeared to me to be essentially an inflammatory affection of the mucous membrane of the colon; in the first form comparatively acute and severe; in the second, mild and chronic; and in the third, combined with ulceration. In all, the circulatory system has been but little excited, in all the general symptoms have been comparatively slight and unimportant; in all the complaint has in fact appeared local, and in all, therefore, I have thought the treatment should be, in a greet degree, local also. It is, however, to the two first forms of the complaint, that the following observations more particularly refer, as it has been almost exclusively those that I have been called upon to treat.

In the management of the cases of dysentery that have been submitted to my treatment, I have as much as was practicable acted upon the opinion of the local character of the complaint. Dispensary practice is not so well suited for the frequent exhibition of enemata as that of hospitals, and from the difficulty of getting them properly administered, I have not been able to employ them so frequently as I have desired; I have, notwithstanding, been often much and agreeably surprised with the vast relief afforded by local remedies in the treatment of dysentery. The application of leeches to the verge of the anus is that to which I particularly refer, and to which more especially I am anxious to direct attention. The practice is by no means uncommon in a variety of diseases, on the continent, particularly in France, but it is one the advantages of which are, I believe, little known, and have been still less attested, in this country. On referring to the article, "Dysentery" in that treasury of medical literature, Copland's Dictionary, I was surprised to find how little attention had been paid to the local treatment of the complaint. Oily, opiate, and ipecacuanha injections have, it is true, been lauded by some, and the application of leeches to the abdomen have been advocated by not a few, but I think only one authority among the vast number referred to, is mentioned as recommending their employment to the verge of the anus. Chomel, in the "Dictionaire de Medecine," barely notices the practice, and in the "Cyclopædia of Practical Medicine" it is not even hinted at. This omission, if such it can be termed, arises in all brobability from the learned authors having more particularly directed their remarks to the disease as it occurs in India, in camps, hospitals, and ships. Leeches applied to the abdomen, in the inflammatory affections of the ileum occurring in the progress of fever, often act very advantageously. I have frequently seen them immediately relieve, and almost instantly remove the local pain and tenderness, though excepting when the peritoneum is simultaneously affected, it is almost certain that their beneficial operation cannot result from the small abstraction of blood emptying the vessels of the part inflamed. In dysentery, on the coutrary, leeches, when so applied, have, according to my observation, afforded little or no relief.

The difference of the result in the two cases I am unable to explain, as in both the structure inflamed is far removed, if the vascular connection is considered, from the part whence the blood is abstracted. When, however, in dysentery, leeches have been by my direction applied to the anus, the benefit resulting from their use has been very decided and surprising. They have sometimes appeared at once to cut short the disease, and at all times they have decreased the severity of, if they have not totally removed the most distressing symptoms. If, indeed, the opinion entertained of the nature of dysentery in this country be correct, if it be essentially an inflammation of the mucous membrane of the colon and rectum, and if the constitution be but little affected, the practice is exactly that which might be expected *à priori* to afford the most decided benefit, as blood is removed from the very seat of the inflammation; from the rectum directly through the hæmorrhoidal veins; and indirectly from the colon by their large and frequent anastomoses with the colic veins. It appears, indeed, to be a practice exactly similar to the application of leeches to the edge of the eyelid in conjunctivitis. Whatever may, however, be the explanation, the effect produced by five or six leeches, when so applied, is often really surprising. I have more than once known pain, griping and tenesmus, which had existed for days, and even weeks, notwithstanding, general treatment and the use of leeches to the abdomen, disappear almost as by a charm, after so small a number as four or five had been applied to the fundament itself. I think, indeed, I can with truth assert, that no single remedy that I have employed or seen employed in this or any other disease, has been so uniformly successful in effecting that for which it was employed, as that of which I am now speaking. I think it right, also, to state that the practice has been neither recently adopted by me, nor employed only in a few cases, but that it has been constantly recommended for the last four or five years in all cases of dysentery, and affections approaching it in character, that have fallen under my care among the out-patients of Guy's Hospital, and those seeking relief at the Surrey Dispensary. I may also observe that I have followed this practice in both sexes, and almost all ages; and that in no single instance am I aware that any injurious or troublesome consequences have resulted, that in no case small superficial abscesses, sores, or erythema, have followed its adoption. I hope, however, I shall not be so far mistaken as to be supposed to advocate the application of leeches to the anus, as a means, unaided and alone, of curing dysentery; I merely wish, clearly and distinctly, to state, as the result of continued observation, and no very inconsiderable experience, that the practice has been an exceedingly efficacious *adjuvant* in the cure of the complaint; that it has often, with surprising rapidity, removed the most distressing symptoms, and that it has never been productive of mischief.

When summoned to a case of dysentery, my first object is to ascertain if the disease has been excited, or is kept up, by an accumulation of hard fæcal matter in the cœcum or colon. If there be any probable evidence that such is the case, I either prescribe a large dose of castor oil, with ten or twenty minims of laudanum, or I order an oily or soap enema to be administered. After the operation, if either of them should have been deemed necessary, or if there have appeared no indication for their employment, I then immediately order leeches to be applied to the verge of the anus, in number varying according to the severity of the disease, and the strength or age of the patient. Fomentations are then directed to be assiduously applied to the anus and the abdomen, or the person is ordered to sit over a vessel containing hot water. After the pain and tenesmus have been, as they usually are, immediately relieved by the local bleeding and fomentation, I direct an enema, composed of two or three ounces of warm starch, and fifteen or thirty drops of liq. opii sedativ. to be administered, and to be repeated once, twice, or thrice daily, according to the state of the bowels, and the recurrence of griping; at the same time, I prescribe a mixture of mucilage and a few grains of Dover's powder to be given by the mouth three or four times a day; and more rarely, together with this, two or three grains of hydr. c. cretâ to be taken at night, or night and morning. Should the pain, tenesmus, and bleeding, not be at once checked, or should they return, as they occasionally do, after entire temporary cessation, the leeches and fomen-

tations are repeated; should they, on the other hand, permanently disappear, or be materially reduced in severity, the leeches are not again applied, but the fomentations are continued, together with the sedatives, for a few days. When the more acute symptoms have ceased, if diarrhœa remain, some chalk is added to the mixture; and if occasional griping, pain, with an unhealthy secretion from the mucous membrane continue, I frequently prescribe, with the happiest effect, a pill of sulphate of copper and opium to be taken, together with the other medicine. To these succeed simply a mixture of inf. cuspariæ, or decoct. cinchonæ, with a little aromatic confection, with or without a few grains of Dover's powder, according as the bowels may or may not have resumed their healthy function. The diet throughout is usually simply farinaceous, consisting of arrow-root, sago, &c., or sometimes milk and suet, with a little cinnamon, in the form of custard. All solid food, vegetables, fruit, and fermented liquors, are strictly interdicted.

Though I have frequently seen it ordered, I have never prescribed calomel, in either large or small doses, for the cure of dysentery. I have, indeed, but rarely given mercury even in its mildest form, and have still more rarely been impressed with a conviction of its beneficial operation in this complaint. In one instance, truly, the hydr. c. cretâ appeared to act favourably after the severity of the disease had been overcome by local remedies. But even here, as no specific effect was produced by the mineral as evinced by the gums, breath, or salivary glands, and as it was given in combination with Dover's powder, it may, perhaps, be still doubted whether the amendment was attributable to the action of the mercury. I shall now briefly notice rather than relate, a few, among many, cases of dysentery and dysenteric affections, in which I have found leeches to the anus singularly efficacious. I have intentionally selected them of various characters and degrees of severity, for the purpose of showing the applicability of the practice to the different shades and varieties of the disease. The first case mentioned is that in which I found the leeches, when ordered by myself for dysentery, not associated with malignant disease, *least* efficacious, and also that in which I thought the hydr. c. cretâ was certainly prescribed with advantage.

Case I.—I was summoned, Dec. 11, 1838, to attend John Davis, aged —, who two days before had been attacked with the following symptoms, which continued with unmitigated severity, and had already very materially reduced his strength. He had great pain in the abdomen, particularly in the right iliac fossa, and paroxysms of severe griping occurring every few minutes, followed by a scanty evacuation from the bowels, passed with violent straining and tenesmus. The dejections consisted generally of a little clear blood or mucus, in appearance very accurately resembling melted red currant jelly, but sometimes contained a very little feculent matter, and were passed ten or twelve times every hour. He had no tension or superficial tenderness of the abdomen, but complained of increased pain when firm pressure was made over the cæcum and colon. The tongue was red and rather dry, the pulse frequent, the countenance free from depression or anxiety, and the skin natural. Leeches to the anus, fomentations, and opiate enemata, were ordered, and repeated with the effect of removing his pain, and reducing the number of the evacuations to six or eight in the twenty-four hours; but as they retained, in a great degree, their former character, and were preceded by considerable griping, I ordered him to take—

Hyd. c. Cretâ, gr. iij.; Pulv. Ipec. C., gr. iiss. 4tis. horis.

In two or three days the motions were altered in character; he was then directed to take tonics, and in a few days required no further attendance.

Case II.—William Morgan, æt. 73, a labourer, stated that he had formerly been the subject of dysentery, and had suffered from it in the acute or chronic state for two months at a time. He came under my care April 25th, 1839, when he had been ill with the complaint for a week or ten days, and had adopted no treatment. He was then suffering from pain in the right and left iliac fossæ, and in the course of the colon, increased in severity in paroxysms occurring ten or twelve times in the twenty-four hours. After each paroxysm he had an evacuation passed with much difficulty, and tenesmus, and composed

principally of bloody mucus. The abdomen was rather distended, the tongue loaded and moist, the skin natural, the pulse frequent and feeble. Ordered—

Hirudines v. ano. Pulv. Ipecac. Co., gr. v. h. s. s. et Tinct. Opii, ℥ v. Mist. Mucilag. ʒj. ter die.

On the next visit he was much relieved, but some pain and tenesmus still continued; he was, therefore, ordered to have directly an enema, composed of liq. opii sedativ. ℥ xv. et decoct. amyli ʒiv., which was to be repeated, if necessary; to continue his mixture and pill; and to apply hot fomentations to the abdomen. From this time his symptoms quickly disappeared. He took one bottle of medicine, composed of decoction of bark and aromatic confection, and then gave up his Dispensary letter. I accidentally saw him a week or two since, when he told me he had had no return of his complaint; that he was quite well, and that he should never forget, or cease to be grateful for his speedy cure.

Case III.—Samuel Clarke, aged 33, by occupation a fish-porter, in which he was frequently exposed to wet and cold, and occasionally accustomed to drink rather freely, had been troubled with dysenteric affection of the bowels for more than a year. He had been into a hospital, and had left it considerably better than when he entered. His disease, however, soon returned with its previous degree of severity, (which appeared never to have been very great,) and he applied for advice at a Dispensary. He was attended by a physician for (I think) two months, and had (to use his own expression) "dozens of leeches" applied to his abdomen, and took a variety of medicines without relief. When I first saw him he was lying in bed; his face was pale and sallow, as from great loss of blood; he complained of great pain in the right iliac region and in the loins. He had from eight to ten stools in the twenty-four hours, accompanied with tenderness and the discharge of blood; the abdomen was not enlarged or tender, excepting on deep pressure over the ascending colon; his tongue was clean, pale, and moist; his skin natural, his pulse frequent, and rather sharp. As he appeared to have suffered from the loss of blood, and to be considerably reduced in strength, he was at first ordered

Tinct. Ferri Sesquichl. ℥ x.; Tr. Hyosc. ℥ xx.; Inf. Calumb. ʒiss. ter die; et Hydr. c. Cretâ, gr. iss.; Ext. Hyosc. gr. iii. ft. Pil. omne nocte sumend.

In three days his symptoms remained the same, the discharge of blood had not increased, the tenesmus continued, and the pain was unmitigated. He was ordered to apply four leeches to the anus, and afterwards fomentations; to repeat his mixture, and to take two grains and a half of Dover's powder, instead of the henbane, with his pill at bed-time. On my next visit he said he was "*quite free* from pain, and that he felt the pain going even while the leeches were drawing;" the bleeding also and the tenesmus had ceased. He had no return of pain; his bowels became quiet and even confined, and he gradually regained his strength and colour; but from indiscreet exposure to cold, and indulgence in improper articles of diet, he had more than one comparatively trifling return of bleeding and tenesmus, which were uniformly and immediately removed by the same simple means. He was discharged from the Dispensary free from complaint, fat, and comparatively florid, though not till after the expiration of several weeks.

Case IV.———, a young lady, aged about 19, applied to me for a troublesome, though mild, dysenteric affection, from which she had suffered for two years. She was pallid and feeble; had from four to six evacuations from the bowels in twenty-four hours, preceded by some griping, and accompanied with tenesmus and the discharge of mucus, sometimes tinged with blood. She also was occasionally troubled with leucorrhœa, pain in the loins, &c. &c. Four or five leeches were ordered to be applied to the anus, and a mixture composed of inf. cuspariæ, pulv. ipecac. c., and pulv. cretæ c. was prescribed to be taken three times a day. The painful symptoms almost immediately ceased. She was afterwards directed to use an astringent injection for the leucorrhœa, and to continue the use of tonics, combined with astringents, with the effect of restoring her in a short time to greater strength and better health than she had enjoyed for years before. I have the gratification of stating that, by strict attention to diet, she has now, for nearly two years, had no return of her troublesome complaint.

Case V.— ———, a policeman, aged about 40, of pale, sallow complexion, applied, among the out-patients of Guy's Hospital, for the relief of dysenteric diarrhœa, accompanied with griping, tenesmus, and the discharge of bloody mucus. Leeches were ordered to be applied to the anus, with the effect of immediately removing his dysenteric symptoms, and copper and opium were prescribed, with great relief, for his diarrhœa. By his occupation, however, he was frequently exposed to wet and cold, and he had several fresh attacks, or renewed aggravations of his complaint; but the painful symptoms were, on all subsequent occasions, as speedily and as effectually removed by the same treatment as they had been when it was originally prescribed. For the last four or five months I have not seen him.

Case VI.—(While engaged in copying this paper I was called to see the girl who is the subject of this case, which illustrates, most forcibly, the advantage of the practice which I am advocating.) —M. A. Kerrage, ætat. 13, engaged as a servant in a house, the wash-house of which is always damp, and sometimes has its floor covered with water. Feeling unwell, with pain and swelling of the limbs, on Friday, Nov. 22, she was sent home to her mother the next day, when both her legs and thighs were much swelled, and covered with a bright red rash, said to resemble measles: she had also swelling of, but no rash upon, the left arm and side. The following day the rash became of a dusky red colour, and on the succeeding day both it and the swelling disappeared. She was then attacked with severe vomiting, and ejected a large quantity of bilious fluid, great relaxation of the bowels, and pain of the abdomen. The motions were numerous, sometimes as many as twenty in the twenty-four hours, very fœtid, bloody, and containing "lumps of flesh, and stuff like worms, but they were not worms." Such was the account given me by the mother. She had been seen by a medical gentleman, who, among other medicines, unknown to me, had ordered her effervescing mixture, with the effect of stopping the sickness. I saw her at 4 P. M. of Saturday, Nov. 30, when I found her with a pale and haggard countenance and sunken eye, a few spots of herpes on the cheeks, and a small ecchymosis, said to have been spontaneous, on the left upper eyelid. She complained of great pain of the abdomen and the back, tenderness at the scrobic. cordis, and in the iliac regions. She had much griping before, and severe tenesmus while passing her evacuations, of which she had had eleven in the last twenty-four hours, of the same character as before. She sat a long time on the night-stool, and the anus prolapsed after each motion. There was no tension of the abdomen, and no swelling or redness of the limbs; the tongue was coated with a dirty yellow fur, and moist; the skin below the natural temperature, the pulse 96, small and quick. Ordered

> Four leeches to the anus, and afterwards poppy fomentations to that part and to the whole abdomen. Liq. Opii sedativ. ♏ x. in ʒij. of starch, to be injected in the evening, if pain and tenesmus continued. A mustard poultice to the pit of the stomach, if the vomiting returned, and a draught of ʒj. Mucilage of Gum, ʒvij. of Decoction of Bark, and 2 grs. of Dover's powder, to be taken thrice daily.

Dec. 2nd.—As the mother called and informed me that the leeches had "worked a wonderful change," and had removed all the pain, and that she had had only two motions, I did not see her till 3 P. M. of this day, when I found the countenance much improved. She told me she felt the pain of her belly and back *relieved even while the leeches were drawing*. That she had now *no pain;* that she had, in the forty-seven hours, passed only three motions, the evacuation of which took place without tenesmus or prolapsus, but which had been preceded by some griping. The two first were similar in character to those previously passed; the last was figured, and without blood or mucus. She had had no return of sickness, and *neither the injection nor the sinapism had been employed*. She had slept comfortably, and had no tenderness at the scrobiculus cordis, though some still existed in both iliac regions; the tongue was much cleaner, the pulse 92, small and still rather quick, and the skin natural. Rep. Mist,

3rd. (this day.)—She had no sickness, and *no motion*; she *has no pain*. The tenderness over the cæcum has disappeared, that over the sigmoid flexure still exists in a slight degree. The tongue is clean and moist, the skin natural, the countenance cheerful and ani-

mated, the pulse 92, stronger and less quick Ordered decoction of bark ʒj., aromatic confectio, grs. x. three times a day, and castor oil, ʒss.: tr. of opium mix. to be taken to-morrow morning, if the bowels are not previously opened.

Upon this, as upon those that have preceded it, I make no comment, but leave the facts to speak for themselves, excepting that I wish it to be remarked, that independently of the leeches to the anus, and fomentations, nothing was administered, except ʒiij. of decoct. of bark, ʒiij. of mucilage, and grs. iij. of Dover's powder, in the course of the day and night, which cannot, I think, be fairly supposed to have effected the really wonderful change in the condition of the patient.

I will now refer to four cases in which I have *seen* leeches applied to the anus without any decided benefit. Two of them occurred in women under my care for fungous ulceration of the os and cervix uteri, in whom the dysenteric symptoms clearly depended upon malignant disease of the neighbouring parts, and were, therefore, as irremediable as that disease itself. The third was a man in Guy's Hospital, who had already been excessively reduced by *diarrhœa* of several weeks' duration, who died the day, or a day or two, after their application. The fourth was a genuine case of dysentery, occurring in a person who had been a sailor. The particulars I extract with condensation from my note-book.

Case VII.—James Carter, aged 45, admitted into Guy's Hospital, Feb. 27, 1833. He was a sailor, had spent many years at sea, and had visited tropical climates, but had never suffered from cholera, dysentery, or scurvy; and though confessedly much addicted to intoxication, had, previously to that attack, enjoyed excellent health. A week ago he got drunk, wet through, and slept in his wet clothes. The next morning he was seized with griping and purging, and on the following day observed some blood in his motions. He had some occasional vomiting, and had entirely lost his appetite. He had continued much in the same state till his admission, when he passed with much griping, sickness, and soreness, about the fundament, eight or ten stools daily. He complained of pain and tenderness about the umbilicus; the abdomen was hard, but not distended; the cheeks were rather flushed, the countenance depressed, the tongue furred, the skin dry, and the pulse 90, small and tense. Ordered

Hydr. c. Creta, gr. iij.; Pulv. Ipecac. C. gr. v. ex Mist. Cretæ, 6tis horis.

28th.—Five stools, with some blood and mucus.

Perg. Enema. Amyli, c. Tr. Opii, ʒss. bis die, Fotus Papaver abdom.

March 1st.—Declines the injections; two evacuations. Pergat.

2nd.—Five stools; some return of vomiting.

Mist Cretæ, ʒss.; Conf. Aromat. gr. xv.; Tr. Opii ♏x. ter die; Catapl. Sinapis Scrob. Cordis applicand. Contr. Fotus.

8th.—Has been improving;—had five stools in twenty-four hours;—feels sick, but does not vomit.

Pulv. Ipecac. c. gr. v.; Hydr. c. Creta gr. ij.; bis die.—Inf. Cuspariæ Inf. Aurant. c. aa. ʒv.; Tr. Cinnam. c. ʒj.; Pulv. Cretæ c. gr. xx. ter die —Vin. Rubi. ʒiv. quotidie.

11th.—Five or six dejections, without blood.

Mist. Cretæ, c. Conf. Aurant. et Tr. Opii, ♏viij. ter die.—Enem. Amyli, ʒiv.; Tr. Opii. vespere injiciend.

12th.—No change.

Baln. tepid.—Rep. Enem. omn. nocte Pergat.

14th.—Hiccough;—tenderness in the iliac fossæ;—six slimy stools.

Hirudines vj. singul. batrieb. abdom. Mist. Cretæ post sing. sides liquid.; Hydr. c. Creta, gr. ij.; Conf. Opii, gr. v. bis die.—Cataplasm. Lini. abdomini.

15th.—Rep. Hirudines et Pergat.

16th.—Purging continued;—tenderness of the umbilicus;—pulse 96, feeble.

Hirudines, xij. ano.; Conf. Opii. gr. v.; Pulv. Ipecac. gr. ss. ter die.—Rep. Mist. Rice Milk.

18th.—Countenance more depressed; pulse 110, small and feeble; skin hot and dry; tongue furred, brown, and dry; tenderness of the abdomen; purging continued, and fæces sometimes passed involuntarily. It is needless to continue the report; suffice it to say, that he afterwards had a large blister to the abdomen, opiate suppositories, and brandy; but his disease continued; the fæces passed involuntarily, and be-

came excessively offensive, and he sank early in the morning of the twenty-first. The inspection, of which, I lament to say, I have, and can find no record, if I mistake not exhibited intense inflammation and gangrene of the mucous membrane of the colon. This case, it is clear, was increased in severity, both from the man's having formerly visited tropical climates, and from his intemperate mode of life. I have only now to remark upon the single objection that I have heard urged against the practice which I am now advocating, viz. that it is disagrecable, and that patients will not submit to it. On the former part of the objection I have only to observe, that it will be entirely overbalanced by the immense advantage resulting from it; and, on the latter, that I have never yet known a single example ofa patient's declining to adopt it.

14, St. Thomas Street, Southwark,
Dec. 5th, 1839.

SMALL-POX AND VACCINATION.

To the Editor of the Medical Gazette.

Sir,

When I lately withdrew from the civil war raging in the columns of your journal among the members of the Vaccine Section of the Provincial Medical Association, I had not anticipated so rich a treat as your number of this day has presented. Mr. Coles, one of Dr. Baron's *collaborateurs* in the concoction of the report, has given your readers a specimen of medical reasoning which is, I believe, without a parallel. "Ant-hills, mares' nests, pecks of flour, sacks of potatoes, juggling statistics, undigested trumpery," and such like rare tropes and figures, are scattered in rich profusion through the three columns which you have kindly devoted to him, and have thus given to the Association a pleasing idea of what the Report would have been, if entrusted to his pen alone. I leave it to Scrutator to deal (and he knows very well how to deal) with the few facts which he concealed in this splendid specimen of close medical reasoning. My sole object is to set Mr. Coles right on the subject of the motives which prompted me to embark in the painful but sometimes necessary duty of a critic. "What," says Mr. Coles, "is the cause of this series of bitter attacks on the Report and the Reporters? Plainly this, tha certain persons were chagrined that their crudities were not admitted and extolled." Now, sir, who are these persons? An ingenious writer like Mr. Coles, who has such a horror of "disguises, dark corners, and obscure positions," ought surely to have told us in plain terms. It can hardly be Scrutator, for it would sorely perplex Mr. Coles to lay his hand on any opinions regarding vaccination (be they crude or be they well digested) which Scrutator had previously published. I am constrained to believe that by certain persons Mr. Coles means me, and that the plural number is one of those happy oratorical flourishes in which he delights to indulge.

If I am correct in the assumption, let me in the first place assure Mr. Coles that the imputation of such a motive as chagrin at the neglect of my crude opinions does not give me the least pain, and for this excellent reason, that it was not the motive which either directly or indirectly prompted my interference. Men act from mixed motives. I was partly influenced by the consideration that, as a member of the Vaccine Committee, I was to a certain limited degree answerable for the statements made in the Report. I might have been influenced partially by a wish to figure again, after a long interval, in your columns; but what chiefly induced me to take up my pen was this. For several years past Dr. Baron has thought fit to animadvert very pointedly on some of the reports from the Small-Pox Hospital. He has criticised them in terms pretty nearly approaching to those recently employed by Dr. Conolly and Mr. Coles. I have no objection to this whatever. My reports are alike open to public praise and public animadversion. I wished, however. to show your readers that if there was a beam in my eye, there was a much larger moat in Dr. Baron's; and that the proverb which hints to those which dwell in glass-houses the propricty of abstaining from throwing of stones, was not yet obsolete. It was a source of great amusement to me, and I thought it might be somewhat instructive to your readers, to know, that the critic of my Reports not only entered upon his own returns 297 cases which never happened, but even stated the probable characters

of the affection under which these 297 persons laboured.

A wish to attract public attention to this eurious circumstance, and not any chagrin at the omission of my erudities, was the chief motive of my writing.

I am, sir,
Your obedient servant,
GEORGE GREGORY.

31, Weymouth Street,
Dec. 14, 1839.

P.S. Seeing that Mr. Coles posseses so eminently the pen of a ready writer, I am tempted to ask him whether the Sectional Report was submitted, prior to publication, to Mr. Cross of Norwich, or to Mr. Dodd of Chichester, two members of the Committee (the latter one of its Secretaries) whose labours in the cause of Vaccination are well known to, and fully appreciated by, every member of the Association.

To the Editor of the Medical Gazette.

SIR,

As Mr. Coles favoured me with a little advice in his first letter, I will do him a like good turn, and intimate to him that vulgar abuse, and the aecumulation of absurd and unmeaning phrases, form a sorry substitute for argument. I freely admit the incorrectness of my criticisms on the returns at pages 35 and 47, and I regret exceedingly that they were made. I only wish that Dr. Conolly had exhibited an equal degree of candour in regard to the errors pointed out by Dr. Gregory, in his last letter. To acknowledge an error, is, as Mr. Coles truly observes, the best reparation that ean be offered in literary matters, and that acknowledgment I now cheerfully make. After this admission, Mr. Coles will perhaps more readily believe me when I say, that in all the important parts of the argument I see nothing to retract, nothing to alter or modify, on the most mature reflection which I can give to the subject. I feel eonvineed that the writers of the Vaccination Report have sadly garbled their statements of the amount of protection given by vaecination, if indeed they may not more justly be said to have blinked the question altogether. On this very important braneh of the great inquiry, I now beg to offer you a few further observations. I am led to do this from perceiving by Dr. Gregory's last letter that he has quitted the field of discussion, at least for the present.

I shall first advert to the objections offered by Dr. Conolly to the reports which have issued at different times from the Small-Pox Hospital. I had hoped that Dr. Gregory would have entered more fully than he has done into an explanation of the fatal eases after vaccination which occurred at that Hospital, because I have every reason to think that he had good grounds of defence. He seems, however, to have followed in this respect the example of Dr. Baron. Like the learned author of the Vaecine Report of 1839, he probably felt that the returns from the Small-Pox Hospital "had been prepared with an honest attention and with great care: that they eontained what he believed to be truth, and that he felt perfectly willing to eommit the issue to time and the unprejudieed opinions of his brethren." This silent submission on the part of Dr. Gregory is to be regretted, beeause he could, much better than I can, have defended himself against the unjust and illiberal attack made upon him and the reports of the Small-Pox Hospital, by your eorrespondents at Cheltenham. They object to these returns, it appears, altogether, beeause some of the fatal cases were eomplicated with other diseases (being in most instances the natural although but the occasional results of severe attacks of small-pox,)such as pleurisy, pneumonia, empyema, effusion into the joints, superadded fever, erysipelas, &c. They might just as well argue that a child did not die of measles or hooping-cough because this disease was aceompanied with pneumonia, or of scarlet fever when the anasarca and effusion into the chest or pericardium destroyed the patient, or of cholera, when the first shock of the disease being conquered, congestion of the lungs, or typhus fever, closed the scene. If these patients had not had measles, hooping-cough, scarlet fever, and cholera, they would not then have died. The world, therefore, and even the eommon language of professional men, most justly attribute the death to those diseases respeetively. The same is equally true of small-pox. Indeed, the parallel between these eases, and those objected to by Drs. Conolly and Baron, appears to me to be eomplete. The precise mode in which death is brought about in all diseases, but very

remarkably in small-pox, varies extremely; some die of that disorder because they are too full of blood, others because they are weak, and have too little. It is impossible to meet with any large number of persons suffering under any one complaint without some of the cases being mixed up with other diseases, and other states of body tending *per se* to a fatal termination. These important views of disease cannot surely be unknown to Drs. Conolly and Baron; it were uncharitable to suppose so. Yet have they most unworthily omitted all notice of them, in order to fasten on Dr. Gregory a charge which should invalidate the entire returns from the Small-Pox Hospital. The whole proceeding appears to be conceived in that spirit of injustice and prejudice of which I have before complained, and which pervades the Vaccination Report throughout. If these gentlemen had been possessed of a spark of liberality they would have looked around them, and have inquired whether similar results were observed on the continent: had they done so, they would have perceived strong grounds for giving to the returns from the Small-Pox Hospital an impartial inquiry, even had doubts before existed about them, as stated by Dr. Conolly.

The following table exhibiting the ravages of small-pox in Ceylon, accords so nearly with what has been observed in England, that I extract it from Dr. Kinnis's work. I believe it has not yet appeared in any of the English periodicals. The cases of chicken-pox have been omitted.

Abstract of 438 Cases of Small-pox which occurred in different parts of the Island of Ceylon, between Oct. 24, 1833, and Dec. 23, 1834; shewing the rate of mortality in those vaccinated and unvaccinated. From a Report on Small-pox as it appeared in Ceylon, in 1833-4, *by Dr. J. Kinnis.*

There had been	Small-pox.		Modified Small-pox.		Total.		Rate per cent. of Fatal Cases.
	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	
1. Never Vaccinated	223	88	5	0	228	88	38½
2. After Vaccination	122	21*	86	1†	208‡	22	10½
3. After Small-pox .	0	0	2	0	3	0	0
Total	345	109	93	1	438	110	25

When Dr. Baron laid down the rule that "all cases of reputed vaccination, unless they have passed under the review of a competent judge who has witnessed the different stages of the affection, should be considered *as no vaccination at all*," he must have known very well that this rule could not admit of general application. 5 cases out of 6 of small-pox after vaccination do not occur until 20 years after vaccination, and I think it will be readily admitted that medical men keep sight of very few of their patients for 20 years: either they move their residence, or the medical man moves his. It is a very rare case indeed for the same individual to witness both the vaccination and the subsequent attack of small-pox. Besides, supposing he did, it would be impossible for him to remember in what way all his patients went through vaccination, and scarcely any medical man keeps register of such cases. The patient is usually too young at the time of vaccination to remember any thing about it himself, and the cicatrix, Dr. Baron says, is not to be considered evidence of perfect vaccination (Report, page 53). It is impossible, I think, to avoid admiring the ingenious contrivance which Dr. Baron has thus hit upon for encouraging the confidence "unbounded and unshaken" which his correspondents Messrs. A., B., and C., have evinced in their several communications. Whatever be the evidence offered against the permanency of vaccine protection, he has here provided himself and them with an easy means of escape.

* One of these patients was in the hospital at the time of attack, recovering from anasarca.

† The patient died of Malabar itch.

‡ 47 per cent. after vaccination.

Before Dr. Baron will admit any case of failure, the objector must *prove* that the vaccine vesicle passed under the review of a *competent* judge, not once or twice, but throughout the different stages of the affection. This is as summary a mode of putting a plaintiff out of court as I ever remember to have read of. In support of his opinions of the permanent influence of vaccination, Dr. Baron endeavours to get rid of the numerous statements of the frequent occurrence of small-pox 20 years after vaccination, by remarking, that "18 or 20 years ago complaints were generally made of the imperfection of the vaccine virus."* I should be much gratified by a reference to the documents published about the period adverted to (1820) which substantiate this statement. But granting, for the sake of argument, that the fact were so, and that complaints of the badness of lymph were greater then than they were before or since, Dr. Baron should remember that he stands here on very slippery ground. There are three great fountains of vaccine supply in England: the National Vaccine Establishment, the Small-Pox Hospital, and the Royal Jennerian Society. These three establishments have furnished almost exclusively, from the first introduction of vaccination, supplies of lymph for different parts of England and the Colonies. Until within the last few years their original stock of lymph remained unchanged, and it is very unlikely that bad lymph should again have become good. Is it not therefore more probable that 20 years ago, being twenty years after the introduction of vaccination, cases of small-pox after vaccination began to be more numerous than before, and hence an opinion arose that perhaps the lymph was imperfect?

Every one who has any evidence to give against the lasting protection of vaccination, has been treated in the Vaccination Report as unworthy of belief. The returns from the Small-Pox Hospital are said to be undeserving of confidence. The reports from the Continent are not to be believed. Any unfavourable reports from private practitioners are not to be trusted, because overwhelmed, ten to one, by reports of an opposite nature, (vide Report, p. 60), nobody in fact is to be believed regarding the effect of vaccination, but the gentlemen at Cheltenham. A more complete system of mystification and hoodwinking I should think was never before attempted to be palmed on an enlightened profession. No statistics are given, not even the statistics of Cheltenham, to enable us to judge on what grounds their conclusions have been made. The profession cannot be contented with proceedings of this sort. Dr. Conolly says, in answer to my complaint of their neglect of Dr. Heim's work, (the most comprehensive and laborious one yet published on Vaccination and its protective power), that it did not come "within the scope of their plan to give much space to continental statements," and yet page after page may be found in the Report, giving accounts from the Continent, but not once recording the protection afforded there by vaccination. At page 85, for instance, there is a long account of the mode of vaccination practised in Denmark, and a similar statement is made regarding Prussia and Norway, but nothing is stated which can show what has been the effect of this complete system of vaccination, and it is the *real utility* of the practice that we want to arrive at, now that forty years have elapsed since its introduction. Not a word is said of the copious information afforded by the Danish writers during the late epidemic of small-pox, although it might have been compressed into half a page, but I suppose "it did not come within the scope of their plan."

A committee specially named to inquire into the subject of vaccination might have been expected to report what amount of protection has been given by the practice as hitherto pursued, in order more particularly to determine whether we could, if necessary, alter or improve the practice. This necessity I think exists, and I humbly suggest, that if the Report had treated more of the *practice* of vaccination, and favoured us less with theory and hypothesis, the aim of the Association would have been better obtained.

The following table gives, at a glance, the result of the experience of late years in the different countries where the greatest attention has been paid to vaccination, regarding the amount of protection which it affords.

* Report, page 58.

TABLE *exhibiting the Numbers attacked by Small-pox in different Countries, distinguishing the vaccinated from the unvaccinated.*

Where treated.	Total Number attacked by Small-pox.	Of whom had been Vaccinated.	Rate per cent. of persons attacked by Small-pox after Vaccination.
London Small-pox Hospital, in 1836-7-8* ..	1255	521	41
Ceylon, in 1833-4†	438	208	47
,, in 1830†	316	189	59
Wirtemberg, 1831-6‡	1677	1055	62
Copenhagen, 1832-4§	1045	898	85
,, 1835§	1197	1043	86

It will thus be observed, that in Denmark, where, according to Dr. Baron's report, the system of vaccination is most complete, 86 per cent. of those attacked by small-pox during the recent epidemic, had been vaccinated. In the face of this evidence, (for it was as available to him as to me), Dr. Baron persists in writing about the *permanent influence of vaccination* in affording protection against an attack of small-pox.

I shall now leave the profession to judge whether or not the strictures I have offered on the Vaccination Report are, or are not, deserved, and how far the writers of it have made good their professions at page 7, that "valuable information, from whatever source derived, has not been overlooked," and that "nothing has been kept back unfavourable to the cause of vaccination."

I have the honour to be, Sir,
Your obedient humble Servant,
SCRUTATOR.

Dec. 16, 1839.

MEDICAL GAZETTE.

Friday, December 20, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

THE PROSPECTS OF THE COLLEGE OF SURGEONS.

THERE is so much that is candid and judicious in the letter of Mr. Aston Key, which we published a fortnight ago, and the subject of which it treats is one of such interest and importance, that, notwithstanding our usual rule of avoiding comments on the opinions of our correspondents, for which we do not hold ourselves responsible, we cannot but offer a few remarks upon the letter in question, and its subject.

The disorder of which Mr. Key treats is the unpopularity of the College of Surgeons, which, notwithstanding its present appearance of soundness and good condition, appears to him to render it doubtful whether it will be upheld against the growing opposition of the University of London, and the remedy which he prescribes, as the only means from which he can hope for success, is laying open the election of the Council to the whole body of the members. The only course, he says, "by which its strength can be permanently increased, is to rest its claim for support on the attachment and esteem of its own members. This can only be done by allowing to each member a vote in the election of the members of the Council." Such is the sum of many lucid arguments, and the only question which (having so lately remarked upon the prospects of the College) it will be necessary for us now to consider.

* London Medical Gazette, and British Annals of Medicine.

† Report on Small-pox in Ceylon, by Dr. J. Kinnis.

‡ Historisch-Kritische Darstellung der Pockenseuchen, des gesammten Impf-und Revaccinations wesens im Konigreiche Württemberg, von Prof. Dr. F. Heim, p. 406.

§ British and Foreign Review, vol. v. p. 207.

The question of the excellence of popular elections need not, in the present day, be discussed as one of theory; and this is fortunate, for in theory its opponents could have no chance; so much can be said of the equal rights of all men, of the infamy of refusing to any one a voice in the government of his own affairs, that but for experience, he who could doubt the excellence of a practice founded on so good a theory, would at least do well to be silent. In our days the experiment has been tried too often to need of our having recourse to any thing more than memory and present observation; for there are few men now holding public offices who are not directly or indirectly chosen by the popular voice. We need not express our opinion on the respective merits of those who hold office now by popular election, and those who not long since held it by the choice of their compeers; we will only say that none will claim a superiority for the former, though many will confess that of the latter class. But this is not in the present case exactly the question, for Mr. Key believes, and we agree with him in the opinion, that the tendency of the proposed mode of electing the members of the Council would be to choose those of whom it is at present chiefly composed—the surgeons of large hospitals. The benefit anticipated from the proposed different method of arriving at nearly the same result, is that the members would have a greater community of feeling with the College, that they would be more attached to an institution in which they had some prospect, though but a very distant one, of obtaining honours, and would support that to which they are at present, as a body, either totally indifferent or opposed.

Now it is certainly not proved by experience that of late years men's minds have been more affectionately attached to the institutions in whose management they have recently been admitted to a share. The House of Commons, elected by a larger proportion of the population than formerly, is certainly not more respected by the majority of persons than was the old one; municipal corporations and vestries are still very far from being objects of the general respect of the mass of the people, and the most strenuous advocates of an extended popular franchise will not venture to affirm that the respect and esteem for the elected, increase, in an equal or nearly an equal proportion, with the number of electors; or that the affection for institutions is augmented in the same ratio as the number of those who are admitted to influence in their management.

These are not important arguments against the general principle of popular elections: but they tend to render it very doubtful whether it would be wise to hazard all the inconveniences to which a frequent recurrence to general elections, in the present case, could not fail to lead, for the sake of the doubtful result of an increase of popularity, which is almost the sole end here proposed. Besides, there are not wanting, even in the present day, instances of institutions enjoying the highest degree of popularity, although a very small portion of their members take any share in their management. The most anxious well-wisher to the College of Surgeons could not desire that it should be more the object of respect and esteem among its members than are Oxford and Cambridge, to those who have graduated there. There are few members of either of those universities who do not, to the latest hour of their lives, cherish an esteem amounting almost to veneration, for their *Alma Mater*, or who ever cease to take an earnest interest in all that concerns her; yet few of these are admitted to any share in University management, or even exer-

cise the privileges that they are allowed. The masters and fellows of nearly all the colleges are appointed by self-election, none by the voice of the mass of members; nor, with a very few exceptions, has any member of a College, who does not obtain a senior fellowship, the least voice in the management of its most trivial affairs. Again, of the numerous members of their Senates, a large proportion do not keep their names on the boards, and are therefore excluded from any influence in the institutions, for which, as we have already said, their esteem is not diminished; and of those who do continue their personal connexion with the University, none but the residents often think of exercising any of their few privileges, unless on the rare occasion of the election of a representative in the House of Commons.

This is the kind of popularity which the College of Surgeons should strive for, or rather, in which it should strive to increase; for among those with whom it is popular (and whose number we are inclined to place much higher than Mr. Key does), this is the kind of favour it enjoys—a favour founded on respect for that which is respectable, which conducts itself with openness, liberality, and honesty, and which requires from those who would obtain even its lowest honours a fair amount of intelligence and education. But undoubtedly the main cause of the popularity which the English Universities enjoy among their own members, is founded on the assurance which every member feels, that all appointments made by the few in power in the University, are made strictly and solely by reference to the talent and fitness of the candidates—an excellence which shines the more brilliantly by its contrast with the majority of the appointments in those Universities in which the nominations are made by Government. Every member of either University feels certain, from the day he enters it, that according to the amount of his intellectual acquirements will be his share or his loss of honour and emolument;—popularity or private interest, or any of those other advantages that are so valuable in the world at large, he knows are useless, and he takes no pains to obtain or to exert them.

It must be remembered, too, that the decision of the chief reward of talent—a Fellowship—is here in the hands of a self-elected few, who choose their own associate, and who are controlled by nothing but their own honesty, their anxiety to stand well in the opinion of the small public around them, and to maintain their own reputation by electing those who will do them honour. These are exactly the motives under the influence of which the Council of the College of Surgeons (who, but for the absence of that important ingredient, the income of the Fellowship, are placed in a situation similar to that of Fellows of the Colleges of the Universities) might act, and, we had imagined, do act. We must confess, with Mr. Key, that we do not exactly know by what rule a member is elected to the Council; but when we look through the list of those who are, or are expected to become, members, and the much larger list of those who are not either, we can really find very few reasons to wish for changes, and we therefore imagine that the "conventional rule," whatever it be, must be a good one. Most assuredly the great mass of the public would make no change for the Council, and the expectants together include nearly all on whom their confidence and money are most liberally bestowed.

The whole evil, we believe, might be proved to lie in one or two exceptional cases to which Mr. Key seems distantly to allude, in which, for un-

published reasons, an inferior candidate has been preferred to one having apparently a better claim. This is the kind of blot which is the eye-sore to thos ethat look on, and which is not the less offensive to them because it is seen so prominently on a clean surface. Each believes that had he had a voice in the election such an error would not have happened, and thus one false step excites the outcry for a total revolution. But it is surely not necessary to resort to so dangerous and uncertain a remedy as a system of general electiou, in a scientific body, for the cure of an occasional and exceptional error arising from the present mode. Besides, these errors must now become even rarer than heretofore: the Council do not now, as once they did, sit in the palmy ease of unthreatened prosperity, Every act, they must perceive, requires now to be considered with a scrupulous regard to the feelings which it may excite in the public mind towards them; for they are now entered on a contest for popularity with a powerful opponent, who has the advantage over them of having every thing to gain, and but little to lose, while they, on the contrary, can scarcely expect an improvement, but must rather fear that if there be any change, it will be a deterioration of their state. They have already, as Mr. Key remarks, shown their anxiety for popularity by measures of which, except with that view, the expediency might be doubtful; and there can be no doubt but they will exercise the same regard for public feeling in that which their members look upon with the greatest jealousy—the election of their own associates in the Council. If professional talent, and it alone, be made the ground of choice, we feel confident that the dangerous and disturbing expedient of general elections (dangerous in most cases, but infinitely perilous in a body whose attention should be mainly devoted, not to popularity, but to the advancement of science,) will cease to be urged. With this rule, every member who can stand the delay of London practice may entertain a fair expectation of having his merit honoured, or will feel that the obstacle to his obtaining a seat in the Council is only that better men than himself must be served first—a fact which his experience with the public will have already prepared him to learn.

We have said that those who practise in London should alone be eligible to the Council—a distinction which Mr. Key, in speaking of the eligibility of the leading provincial surgeons, seems to have overlooked. The members of the Council, it must be remembered, have business to transact, and must meet for many hours once or more in each month; and the Board of Examiners must assemble once and often twice or thrice in each week; engagements which it would be impossible for any but residents in London to keep. The provincial surgeons, therefore, however eligible in every other respect, must be by their locality excluded.

ROYAL MEDICO-CHIRURGICAL SOCIETY.

Dec. 10, 1839.

Sir B. C. Brodie, Bart. President, in the Chair.

Remarks on Emphysema of the Lungs By George Budd, M.D., F.R.S. Physician to the Seaman's Hospital, Dreadnought.

Dr. Budd commences his paper by detailing the principal anatomical characters of emphysema of the lungs, which were first distinctly pointed out by Dr. Baillie, and which have since been more fully described by Laennec.

It is one of the objects of this paper to shew that want of elasticity in the lung—in other words, absence of its natural tendency to collapse—is the cause of many of the other anatomical characters of emphy-

sema, and of most of the symptoms by which this affection is recognised.

The symptoms and anatomical characters which Dr. Budd ascribes to this cause are—the cylindrical form of the chest, and elevation of the shoulder-blades and collar-bones; the abdominal character of the breathing; the immobility of the parietes of the chest during the acts of respiration and cough, which is short and interrupted; the dryness and diminished vascularity of the capillary system of the pulmonary artery in portions of lung affected with emphysema; imperfect arterialization of the blood, and consequently, diminution of animal heat; obstruction to the circulation through the lung, causing dilatation of the right cavities of the heart, and a tendency to general œdema.

Dilatation of the air cells was considered by Laennec as the chief character of emphysema of the lungs; and he supposed that this dilatation was caused by some obstruction to the air-passages, which prevented the free escape of air from the lungs. The explanation given by Laennec was generally received, until doubts of its correctness were excited by the discovery made by Dr. Jackson, that emphysema is very frequently an hereditary disease. These doubts have been confirmed by the accurate researches of M. Louis, who found that emphysema often developes itself without the occurrenee of pulmonary catarrh. Dr. Budd considers dilatation of the air-cells, like dilatation of the chest, a necessary consequence of want of elasticity in the lung, which he regards as the fundamental and primary character of emphysema.

Dr. Budd gives an account of the state of the lungs in twenty horses of various ages. He concludes from these dissections, that emphysema of the lungs is very common in horses, and that in them it follows, in all particulars, the same order as in man. He infers from this, that the disease has the same cause in both, and that in horses, as in man, it is very frequently hereditary.

The paper concludes with some general remarks on asthma.

Dr. Budd speaks throughout of vesicular emphysema. What has been called interlobular emphysema, *i.e.* extravasation of air into the cellular tissue of the lung, rarely exists to such a degree as to give rise to any symptoms, or to merit being considered as a disease. It is the result of an accident, namely, rupture of an air-cell, most commonly caused by a deep and rapid inspiration, and which is generally a very trifling injury, the density of the cellular tissue of the lung preventing the extravasation from taking place to any great extent.

ON THE EMPLOYMENT OF A NEW VEGETABLE, MONESIA, IN MEDICINE.

By Dr. G. J. Martin St. Ange.

A vegetable substance, called *monesia*, has lately been imported from South America, in the form of hard thick cakes, weighing about five hundred grammes (9215 grains). These loaves, which are flattened, and have paper of a yellow colour adhering to them, are composed of the extract, prepared in the country, from the bark of a tree whose botanical name is not known. M. Bernard Derosne, the druggist who introduced it, informs me that some travellers call the monesia bark *goharem*, and others *buranhem*. But what is of more importance is, that the naturalists who have examined it think that the tree which furnishes it is a chrysophyllum.

The extract is of a deep brown, and very friable; when broken it looks like a well-roasted cacao nut. It is entirely soluble in water, and its taste, which is at first sugary like liquorice, soon becomes astringent, and leaves behind a well-marked and lasting acid taste, which is particularly felt in the tonsils.

The bark of the monesia is smooth and greyish, like that of the plane tree, with this difference, however, that it is much thicker, that its fracture is imbricated, and that its sweet taste forms a strong contrast with the bitterness of the thin laminæ which are detached from the plane.

The chemical analysis of the bark of the monesia, and of the imported extract, according to MM. Bernard Derosne and O'Henry, has demonstrated the presence of the following soluble principles:—1. Chlorophylle; 2. vegetable wax; 3. a fatty and crystallizable matter; 4. glycyrrhizine; 5. an acrid and somewhat bitter substance; 6. a little tannin; 7. an unexamined organic acid; 8. a red colouring matter, resembling that of cinchona; 9. phosphates of lime, with organic acids.

The pharmaceutical preparations which have been made with this substance are—1. an aqueous extract; 2. a syrup, containing thirty centigrammes (5½ grains) in the ounce; 3. a hydro-alcoholic tincture, containing two grammes (37 grains) per ounce; 4. chocolate, containing thirty centigrammes (5½ grains) in each cake weighing three decagrammes (7 drachms, 49 grains); 5. an ointment, containing an eighth part of its weight of extract; 6. moncsine, being the acrid substance mentioned in the analysis.

The extract contains about eight per

cent. of glycyrrhizine, and twenty per cent. of acrid matter.

The following accounts of monesia are already in existence:—1. A manuscript memoir, which is in the hands of the commissioners appointed by the Academy of Medicine. 2. A synoptical table, giving the analysis, some pharmaceutical preparations, and the medicinal preparations of monesia. 3. A very minute summary of these two papers, entitled, "Account of Monesia." 4. An article inserted in the *Bulletin Thérapeutique*.

I will now give a succinct account of the facts which have been published, before mentioning the results which I have obtained myself.

The medical cases in the synoptic table have been drawn up by several physicians in Paris; they give the nature of the disease, the sex, the profession, the age, and the constitution of the patient; the mode of treatment, the duration of the disease, the termination; and, lastly, the remarks suggested by each method of treatment.

M. Alquié, professor of internal pathology at the Val-de-Grâce, found—

1. That of forty-two soldiers attacked with diarrhœa of different degrees of severity, thirty-six were cured in twelve days; twenty-four by the extract of monesia given in pills, in the dose of from eighty centigrammes to a gramme (14½ to 18½ grains) a day; and twelve by the tincture, administered as a clyster, in the dose of eight grammes (147½ grains) in two hundred and fifty grammes (4607½ grains) of bran water.

2. That in two cases of menorrhagia, the extract and the tincture of monesia given internally soon calmed the pain, and stopped the uterine discharge.

3. That in four women attacked with profuse leucorrhœa, the extract of monesia given internally, and the diluted tincture injected into the vagina, were beneficial.

4. That in two cases of hæmoptysis, where bleeding, ligature of the limbs, and ordinary astringents, had been employed without advantage, the extract of monesia succeeded completely; and that several chronic cases of bronchorrhœa were benefited by the syrup of monesia, which was sometimes combined with opium.

M. Baron cites—1. A very remarkable case of chronic inflammation of the vagina, of a syphilitic kind. No advantage had attended the previous use of baths, local bleedings, emollient and astringent injections, the nitrate of silver; a year later the diluted supernitrate of mercury, sulphureous baths, leeches, and the repeated application of blisters and sinapisms, were equally useless. In spite of these remedies the discharge from the vagina became more abundant. Injections were then used containing thirty grammes (552 grains and 9-10ths) of the extract of monesia in a hundred and fifty grammes (2764½ grains) of water. In eight days the discharge was much diminished, and in three weeks the patient was cured. The discharge returned in a month, but again yielded to the same injections.

2. A case of leucorrhœa. The discharge was copious, of a yellowish white colour, and accompanied with pains in the groins and lumbar regions; baths, leeches, and injection of mallow water and laudanum, had produced no benefit. Injections of monesia, in the proportion of thirty grammes (552 grains and 9-10ths) to a hundred grammes (3317½ grains) of water, were employed once a day, and the patient was cured in a fortnight.

3. Several cases of diarrhœa, which resisted the means generally used, were cured by the extract of monesia given internally, and clysters containing the tincture, in different proportions.

M. Buchez has employed the extract of monesia, and has remarked, that it delayed the progress of caries in the teeth, and that, when combined with opium, it often soothed the pain more effectually than the opium alone. He recommends the employment of the tincture to keep the gums in a healthy state.

M. Daynac speaks of the good effects he has obtained from the preparations of monesia (the syrup, lozenges, and paste) in several cases of the chronic catarrh of the old, in dyspeptic persons, and in the third stage of phthisis. He also cites remarkable cases of scrofulous engorgement, much benefited by the use of the tincture of monesia, in the dose of eight grammes (147½ grains) daily, continued for a greater or less time. Lastly, the extract of monesia in pills, in the dose of from sixty to ninety centigrammes (11 to 16½ grains), has been very serviceable in uterine discharges.

M. Laurand speaks of a well-marked case of scurvy which he cured with monesia. The patient had had frequent epistaxis, which had several times required the nostrils to be plugged. He was made to inspire acidulated water by the nostrils, containing thirty grammes (552 grains and 9-10ths) of the tincture to a pound of water. This stopped the hæmorrhage; but when the same thing had been done with acidulated water not containing monesia, it had not succeeded. The patient also took from a gramme to a gramme and a half (18½ to 27¾ grains) internally every day. The same physician has ascertained the efficacy of monesia in a great variety of circumstances, particularly in gangrenous eschars on the sacrum.

M. Manec has employed the different preparations of monesia with success:—1. In a man who, for six years, had had a large serpiginous ulcer in the bend of the groin, which had resisted every kind of treatment, and which rapidly improved under the use of monesia ointment.

2. In a great number of aged women labouring under diarrhœa, and in persons affected with chronic bronchitis.

M. Monod has furnished some very interesting cases; some of ulcers of the nose, and others of affections of the intestinal canal. The ulcers were dressed with the powdered extract, and cured in a few days. In the other cases the extract given in pills to the amount of from sixty to a hundred and twenty centigrammes (11 to 22 grains) daily, was perfectly successful.

M. Payen, who has employed monesia in a great number of cases, has seen a patient in whom leucorrhœa was considerably increased by this medicine, administered two different times; the monesia was then tried as an injection, and the discharge, which had hitherto resisted every remedy, disappeared, and did not return. The same practitioner cites two cases of uterine hæmorrhage, where the patients were obliged to keep their bed for a fortnight at each menstrual period, and in which the monesia brought back the discharge to its healthy standard. Lastly, M. Payen has succeeded in cicatrizing an ulcer in the lower jaw, which, for ten months, had resisted every kind of treatment, both internal and external; and in healing ulcerated chilblains, by means of the ointment and the powdered extract of monesia.

Thus we see that monesia has been employed both externally and internally. It has been frequently administered during the chronic stage of bronchitis, usually alone, but sometimes combined with opium, and in the greatest number of cases it has seemed to act advantageously upon the disease, the expectoration and respiration being rendered more easy.

In many cases where pulmonary hæmorrhage was prolonged, having resisted various and generally efficacious remedies, the extract of monesia has stopped the spitting of blood.

In weakness of the stomach monesia has a very favourable influence on digestion, and secondarily on nutrition. This medicine has also been very beneficial in chronic enteritis; it has chiefly succeeded against diarrhœa, from whatever cause it arose.

The efficacy of monesia taken internally has been less marked in leucorrhœa than in diarrhœa; yet it has been useful in the majority of patients who have taken it; but injections have been more advantageous.

In every case of uterine hæmorrhage where monesia has been given, it has succeeded in moderating and suppressing the discharge more readily than the other remedies which had been previously used.

Monesia has also been of great advantage in scorbutic and scrofulous affections, and has always benefited ulcers of a bad character, whether the ointment, or the pure extract powdered, or the acrid substance contained in it, has been employed.

Such is the compendium of the cases hitherto published, with the exception of four by M. Forget, which are the basis of the article that he has published in the *Bulletin Thérapeutique*, and which, as he says himself, neither tell for nor against monesia.

We may say, therefore, generally, that monesia shews its maximum of power in diseases of the digestive organs, in hæmoptysis, uterine hæmorrhage, and ulcers of the skin, or of the mucous membranes, at their origin. A remarkable point in this remedy is, that although it is gifted with energetic powers, and has acted upon the tonsils or upon ulcerations as an active stimulant, it has never irritated the stomach as tonics, properly so called, often do. In order to form a due estimate of its relative activity, we must not forget that it has always been employed after the exhibition of other remedies.

I now come to my own cases, the general results of which may be stated as follows:—

Monesia, when exhibited internally, in the dose of from 75 to 125 centigrammes (14 to 23 grains) of the extract daily, for eight or ten days, whether in the form of pill, tincture, or syrup, has an immediate effect upon the digestive passages, and quickens the action of the stomach in a very remarkable manner. If the dose of the remedy is pushed to four grammes (74 grains) of the extract daily, for fifteen or twenty days, the appetite increases, but the patients sometimes experience a feeling of heat in the epigastrium *: tenesmus and obstinate constipation may also come on; hence its action upon the digestive tube should be moderated by diminishing the dose according to the effect produced, and administering emollient or laxative clysters, as may be required.

Monesia ointment may be employed externally upon sores, in every case, but with more or less success, according to circumstances: thus I have seen it succeed in large and excessively painful ulcers,

* Showing that it *does* irritate the stomach, contrary to the assertion made a few lines before. —TRANSLATOR.

arising from the action of blisters, in sores produced by burns, in varicose ulcers and old wounds; in a word, whenever the sore is painful, and depends on a merely local affection. When this is not the case, and the ulcer is kept up by syphilis, scrofula, scurvy, or cancer, it is impossible to effect a permanent cure by merely applying the monesia ointment, washing the sores with the tincture, or sprinkling them with the extract or acrid principle contained in it. Yet, by employing these different preparations in a proper manner, we may hope to modify the sores, and even to cure them for a time. Generally speaking, the ointment, when applied to a sore, calms the local pain; the tincture thus used, produces a sensation of heat, which ceases immediately; the powdered extract more or less excites the sore, and the acrid principle in powder, when well prepared, has a special activity greater than caustic: hence it is a powerful remedy against fungous or atonic ulcers of a bad appearance; but as soon as these sores become painful, and especially when they are covered with a whitish pellicle, the use of the acrid principle should be discontinued; for it is usually this pellicle which, by preserving the surface of the sore from contact with the air, and perhaps by becoming partly organized, produces cicatrization.

I have said expressly, that it is impossible to obtain a lasting cure of syphilitic or cancerous sores by the mere external use of this remedy; in such cases, therefore, we must have recourse to a specific treatment capable of acting on the system. I have found that in order to effect the cure of scrofulous ulcers, the monesia must be employed internally, for five-and-twenty or forty days, and even longer, according to the case; and this in large doses, such as four or five grammes (74 or 92 grains) of the extract daily, in the form of pill, tincture, or syrup. In this way I have succeeded in curing or benefiting several scrofulous patients. Here follow two remarkable examples:—

Case I.—A young man of 17, a printer, born of very healthy parents, came to see me in February, 1839, to have the little-finger of his left hand amputated. On looking at the diseased parts, I saw it was a scrofulous affection of only eight months' standing. The first phalanx was much swelled, the soft parts covering it were livid, and there were three fistulous openings in the skin; two corresponding to the dorsal part of the phalanx, and the third to its palmar surface. They were surrounded with callous vegetations of a brownish colour, and communicated with one another by means of subcutaneous fistulous passages. By introducing a blunt probe into the sores, it was easy to reach the bone of the finger, and to ascertain the detachment of the skin and the caries of a portion of the phalanx. The suppuration was serous, yellowish, of a faint odour, and contained some flakes of a substance which seemed carious. Strong pressure of the diseased tissues occasioned hardly any pain. On the back of the hand and the left elbow there was also a swelling of the skin and of the subjacent parts, looking like the little-finger. The swelling and livid patch extended from the elbow * to the inside of the bend of the arm; its centre was ulcerated, and covered with a thick crust, which, according to the patient's report, was renewed every two or three days.

I began by sprinkling the acrid principle of monesia on the small sores of the finger. After some days' dressing, the swelling of the soft parts began to diminish, and at the end of about twenty days the fistulous openings entirely closed. The diseased tissues at the back of the hand then ulcerated, and the acrid principle being employed as above-mentionod, in a few days a cure was effected. There remained only the sore upon the elbow, which had been purposely dressed with cerate. It continued to suppurate, and to be covered from time to time with a fresh crust.

The patient was in this state when I presented him to Dr. Bailly, who had been commissioned by the Academy to report on the effects of monesia. The affection appeared to him to be evidently scrofulous, and the result obtained to be very satisfactory. The disease, however, soon reappeared; the fistula of the finger began to suppurate again; there was swelling and livid redness of the soft parts, with engorgement and induration of the back of the hand; the sore on the elbow became larger and deeper. The patient now entered the hospital of St. Louis, where he had internal medicines as well as fumigations, sulphurous baths, &c. In a month he came out, with the diseased parts in a worse state than ever. I now prescribed the internal use of monesia — namely, twelve pills, each containing 20 centigrammes (3½ grains), and two spoonfuls of the tincture. The sores were dressed with common cerate. Under this treatment the patient was cured in thirty-five days. Nevertheless he continued to take five pills a-day till the fiftieth day.

Since July, the diseased parts have been constantly improving, and a lasting cure may be hoped for. It is right to state, that in this case the preparations of monesia did not cause tenesmus or constipation, although the patient did not employ

* The original here has *cou*, but this must be a misprint for *coude*.—Translator.

any purgative; the only thing he complained of was too much appetite.

Case II.—M. —, æt. 40, who had always enjoyed perfect health, came to France two years ago, and perceived, in the month of April, 1839, that he had an indolent tumor in the left inguinal region. Several physicians of the capital were consulted, and they ascertained that it was a swelling of one of the superficial lymphatic glands, situated in the bend of the groin. On the 21st of the same month, I was also consulted by the patient. The diagnosis was not difficult, but the point was to know how the tumor would turn out. My prognosis was favourable, like that of all the other physicians, excepting M. Lisfranc, who thought that the swelling of the gland, though slight, depended on a general affection. On the 2d of May the groin continued to swell, and from that time all the other glands of that part, as well as of the left iliac fossa, swelled considerably; and this was soon the case with those of the opposite side. Twenty pages would scarcely suffice to tell all that was prescribed by the physicians, and patiently submitted to by M. ——. No remedy was of any use, except for a short time; and I therefore proposed monesia, in the dose of 150 centigrammes (28 grains) of the extract a-day. The patient at this time was extremely weak, ate but little, and was feverish every day. In a week, digestion had improved; there was a sensible increase of strength, and no fever. The sores were dressed with the monesia ointment. In consequence of these results, I tried to augment the dose of the medicine, and, besides the extract, the patient took two spoonfuls of the tincture, and from four to six of syrup in an infusion of hops. As to the sores, which obviously grew better, the same dressing was continued morning and evening, and every thing promised a speedy cure, when constipation and a most painful tenesmus came on, which obliged us to suspend the treatment. In a few days the sores became larger and larger, fungous, and of a bad appearance.

The dressing was then changed—extract of monesia in powder and the tincture being employed; but these remedies were almost as useless as a host of others which were successively tried. It then seemed clear to me that the internal use of monesia had alone produced the improvement, and its use was accordingly resumed, taking care to make laxatives a part of the treatment. For this purpose the patient had two glasses of Enghien water every morning, and an emollient clyster. In a fortnight, the good effects of the monesia were again perceived; and this was the more to be attributed to its internal use, as the dressing had been performed with simple cerate.

At present, the swelled glands of the groin are softening and disappearing, without any suppuration. Those of the iliac fossa are diminishing in size; the sores have cicatrized, and the disease, far from attacking the lymphatic glands of the other parts of the body, as is commonly the case, is localized, and is much lessened. The patient eats with a good appetite, sleeps well, and takes exercise three hours a day, which makes us hope for a fortunate termination of the disease.

Another result which I have obtained from the use of monesia, and which has been observed by other practitioners likewise, is its action upon the uterus in cases of metrorrhagia. I will give two instances:—

Case III.—Madame ——, of a plethoric constitution, was attacked, after the catamenial period, with a flooding, which obliged her to keep her bed and seek for advice. After having employed cold drinks, ligatures on the limbs, cupping-glasses, and other revulsives, without success, I made the patient take five monesia pills, each containing 20 centigrammes (3 grains and 3-5ths). The next morning she was very weak; the skin burning, the pulse scarcely perceptible, the face pale, and the eyes sunken. She had shivering fits from time to time, a sensation of weight in the loins, transient colic pains, and headache, with sleepiness; and what was more, the hæmorrhage did not diminish. I then prescribed twelve pills of extract of monesia to be taken every hour. The discharge stopped the same day, and never returned.

Case IV.—Madame ——, aged 20, who had been married six months, had frequent pains in the loins; and in a few days a flooding came on, which obliged her to keep her bed. The hemorrhage increased, as soon as the patient got up; there was no pain in the abdomen, and no constipation; the pulse was weak and irregular, and from 76 to 80 in a minute. Revulsives, cold and acidulated drinks, clysters of cold water, and compresses dipped in iced water and applied to the thighs, had no effect. The ergot of rye was then employed, but as this excited vomiting, it was discontinued, and pills of the extract of monesia were ordered to be taken every hour, until an effect was produced. After fourteen pills the hemorrhage ceased. The patient then took cold broth at intervals, and in spite of the lightness of this food, the discharge returned in the evening with violence, and again ceased after the exhibition of ten monesia pills.

On the following day, the dose of the medicine was diminished to 75 centi-

grammes (14 grains), and in six days the patient was quite well.

Quite lately, I employed the acrid principle in powder, in the dose of 15 centigrammes (2 grains and 7-10ths), taken in a prune; it was to stop a uterine hemorrhage, which had suddenly come on during the night; the discharge ceased the same day. But as this case stands alone, additional facts are necessary to prove the power of the acrid principle under such circumstances. In every case, monesia acts in a remarkable manner upon the uterus, when it is not in its natural state. This new medicine may be used in different ways, and it acts on different organs, particularly when they require to be strengthened without too much excitement.

This is confirmed by the following passage from M. Buchez:—

"I have tried the extract of monesia," says this skilful practitioner, "in different affections of the mouth, particularly in inflammation of the gums, and uniformly with advantage. Its application produced a good effect, by almost instantaneously soothing the pain, which often accompanies inflammation. This mode of treatment I have found very successful in the scorbutic swelling of diseased gums, and it has removed affections which had previously resisted other remedies. When caries of the teeth is attended with pain, the application of monesia is sure to remove it in a few moments."

When all the ascertained facts are compared together, one is struck by the very peculiar tonic action of monesia on every organ. As its powers have been tried in more than four hundred cases, we may be allowed to consider monesia as a very useful remedy, under several circumstances, particularly scrofulous affections and uterine hemorrhage. Hence the art of healing was made a real acquisition; nor is it to be imagined that this tonic has any analogy with those already known*, quite ately a tannin ointment, and monesia ointment were tried and compared with each other, and the advantage was on the side of the latter. Moreover, it is clear that every medicine acts in its own way, and that there cannot be two whose special effects are the same. Well-informed practitioners know that one purgative cannot be indifferently substituted for another; that every narcotic has not, in the same degree, the power of soothing and producing sleep; that the action of the various tonics is also very different; and that the general effects of medicines are like the difference of faces; many resemble each other at the first glance, but none can sustain an exact comparison.—*Gazette Médicale.*

* There is some mistake in the original here, "que l'on ne croie pas que ce tonique ait quelque analogie avec ceux déja connus;" for, granting that its effects are not identical with those of any other tonic, there is a well-marked analogy.
TRANSLATOR.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Nov. 28.

Morgan Graves, Staunton, near Coleford, Gloucestershire.—John Carnes, Durham.—Henry Munroe, Hull.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Dec.* 10, 1839.

Abscess	1	Heart, diseased	5
Age and Debility	40	Hernia	1
Apoplexy	1	Hooping Cough	5
Asthma	8	Inflammation	16
Cancer	1	Bowels & Stomach	10
Childbirth	3	Brain	7
Consumption	56	Lungs and Pleura	19
Convulsions	22	Insanity	1
Dentition	3	Liver, diseased	1
Diarrhœa	2	Locked Jaw	1
Dropsy	8	Measles	10
Dropsy in the Brain	5	Mortification	4
Dysentery	1	Paralysis	17
Epilepsy	2	Rheumatism	1
Erysipelas	1	Venereal	2
Fever	11	Unknown Causes	53
Fever, Scarlet	14		
Fever, Typhus	2	Casualties	3
Hæmorrhage	1		

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Dec.	THERMOMETER.	BAROMETER.
Thursday . 5	from 30 to 36	29·96 to 30·08
Friday . . 6	29 37	30·20 30·24
Saturday . 7	30 37	30·23 30·13
Sunday . . 8	28 37	29·99 29·91
Monday . . 9	30 37	29·78 29·65
Tuesday . . 10	30 37	29·55 29·53
Wednesday 11	37 47	29·53 29·24

Prevailing wind, E.

Except the 7th, generally cloudy; rain fell on the 5th, 9th, and two following days.

Rain fallen, ·14 of an inch.

CHARLES HENRY ADAMS.

NOTICES.

We have to apologize to numerous correspondents for the delay of their communications.

The petitions next week.

We cannot insert Mr. B.'s letter to Mr. Wakley.

J. C. H.—We think it better not to insert the "Reply to the attack on the Medical Officers of St. George's, in the Lancet," because we have learnt from experience that falsehoods so palpable as those to which he alludes may be safely left without contradiction.

WILSON & OGILVY, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, DECEMBER 27, 1839.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.
Surgeon to the St. Marylebone Infirmary.

MORTIFICATION.—*(continued.)*

Mortification from an insufficient supply of blood — Causes—Symptoms — Treatment.— Mortification from violent mechanical, chemical, or physical causes; heat, cold, concentrated acids, alkalies—Physical violence— —Symptoms — Treatment. — Mortification from Poisonous Substances — Varieties — Symptoms—Treatment. — Gangrene of Infants.

SCORBUTUS.

Nature—Causes—Symptoms—Treatment.

Dry Gangrene.—Nature.—Dry gangrene is, I think, a more appropriate term than senile gangrene, because the disease known as gangrena senilis is often developed long before old age. Still I admit that a few rare cases occur, in which senile gangrene is not absolutely dry gangrene. Pott believed, and he was right in his belief, that in this country men are more frequently than women the subjects of this disease; not, however, I think, to the extent he believed—twenty to one. In France, where the mode of life of men and women differs less than in England, it is said that a nearly equal number of men and women are afflicted by this disease. In our own country, unhappily, since the time of Pott, women are accustomed to take alcoholic stimuli almost as much as men, and this may be the cause of the greater frequency of the disease in women in the present, than in his time. Pott did not believe that any particular kind of constitution predisposed to it, though he was inclined to think that it frequently occurred in persons subject to irregular gout. But the classes from whom the greater number of cases come, are the great eaters and great drinkers. I apprehend that the disease described by Jeanroy, in the Memoirs of the Royal Society of Medicine, under the term "gangrene of the rich," and which was manifested particularly in the feet and the legs, was only a variety of this affection.

Causes.—The causes of dry gangrene were well considered by Francois, in the Journal Gen. de Med. 1826: he referred them to two classes, one having its seat in the vascular, the other in the nervous system. He carefully examined the arterial and venous parietes, the formation of clots, their obliteration, diseases of the heart, changes in the blood; he has shewn how far each of these causes is capable of producing gangrene by interrupting the circulation; he shews the influence of arteritis and phlebitis, but does not agree with Delpech, Cruveilhier, and Dubreuil, that inflammation of the capillaries has any thing to do with its production. As to those causes of gangrene which affect the nervous system, he refers to the intimate connexion existing between circulation and innervation, and alludes to a case of Allibert, which shews the influence that paralysis may have upon the progress of spontaneous mortification.

His observations tend to the conclusion that the precursory and concomitant signs of spontaneous gangrene are evidently the same as those of all organic lesions, capable of intersecting the course of the blood, of altering its composition, or interrupting nervous influence, but that arterial or venous inflammation is the alteration most frequently seen.

Other conditions of the arterial system are also capable of producing senile mor-

tification; arteries may be obliterated by masses of fibrin; these masses are frequently developed as a consequence of inflammatory action developed in their parietes; of the irritation of spiculæ of calcareous matter, and these are often the exciting causes of gangrena senilis. In old people, in whom this state is usually found, the collateral circulation is not susceptible of increased action to such an extent as to maintain vitality. I do not believe that spontaneous arteritis, in the common acceptation of the term, is a frequent cause of senile gangrene, neither do I believe that the antiphlogistic system, as employed by Dupuytren and Roche, under this idea, has had even moderate success, but in most cases I believe it will be found to accelerate the extension of the disease. I have, however, seen cases of gangrena senilis, or dry gangrene, in which, after careful examination, no deposition of calcareous matter could be demonstrated, and in which it was necessary to refer the disease to the inability of the circulating power to propel the blood with the force necessary to reach the farthest extremities of the body.

From Debility.—The cases of mortification from debility are more frequent than is usually supposed; many of them differ from the cases we have just mentioned, in being preceded by congestion. Such are those sloughs or mortification succeeding to pressure in many diseases; those sloughs over large tumours not preceded by any considerable inflammatory action; but others are occasionally seen in which the appearances are very similar to those of ordinary dry gangrene. In many cases of phthisis pulmonalis, when the powers of life have been very gradually extinguished, I have seen the extremity of the nose, the fingers, and the toes, present all the characters of dry gangrene, and they are perfectly horny when cut into. With these cases we may associate those where organic disease of the heart seem to be the exciting cause, acting either by its inability to push the blood forward, or by preventing the blood from returning; but these cases are happily rare.

Anatomical Characters.—When mortification is produced by obliteration of arteries, the anatomical characters of the affected part are different from those presented when the affection succeeds to intense inflammatory action. There is a darkish red or purple, gradually terminating in black, colour, first shewn at the affected points; there is sometimes a burning or prickling sensation, with numbness and cold; it is painful on pressure, its bulk is lessened, it appears shrivelled. Little blood usually arriving at the part, there is not much tumefaction at any period, nor vesication, and this interruption to the arrival of fluids accounts for the shrivelling, which is often so great as to give the parts a mummy-like appearance.

The ossification of the arteries so generally found in these cases, must not always be looked for at the part itself; it may be at a considerable distance from the part; for instance, when the disease occupies the foot, we may find no ossification nearer than the iliacs.

Symptoms.—The symptoms which precede the appearance of this kind of mortification are numbness, cold, weight, diminution, or loss of sensibility of the part, more or less complete inability to move, more or less acute burning, deep-seated pains. After some time, the disease appears at the extremity of one or several of the toes, in the form of a blueish, livid, or blackish spot. The epidermis is often detached, and the cutis exposed, but its sensibility is completely extinguished. The part gradually becomes shrivelled, dried up like that of a mummy. In its progress, which is sometimes very slow, (Morgagni, Epist. 55, sect. 25), sometimes very rapid, it may affect the whole of the toes, the foot, the leg, or even of the thigh, if the patients resist so long. A sensation of heat and numbness, or even of burning pain, sometimes marks its onward progress. A reddish circle, often very indistict, accompanied by some œdema, often precedes its extension. When the resistance to the extension of this disease is effectual, the red line is bright, and a gutter formed, as in ordinary mortification.

Treatment.—Supposing this condition (dry gangrene) to succeed to such a variety of causes, it is evident that in the treatment a variety of remedies may be necessary. Pott for some years was accustomed to administer bark, but with little success; at last a case was presented to him, where the patient's suffering was so excessive, and his dislike to bark so great, as to induce him to exhibit opium. For some days he took a grain every four hours, and continued it until the gangrened parts were completely separated, the bowels being regulated by enemata. The patient recovered, and he afterwards gave bark and opium in combination, with success, in many cases; he also succeeded with opium alone, and his conviction was, that opium possesses considerable virtues and advantages in the treatment of this disease, and that it was able to save from death persons so afflicted. I do not, says he, mean to affirm, that it never fails; on the contrary, occasionally it has not succeeded in my hands. The local treatment he employed consisted in the application

of warm cataplasms and fomentations over the foot and lower part of the leg. Kirkland admits the good effects of opium, and objects to emollient applications, which he considers dangerous, but I should say that there are few persons who have not experienced the soothing effects of emollient and sedative applications.

Avisard, who first strongly insisted upon inflammation of arteries as a cause of this disease, advised local and general bleeding. Broussais reiterated this advice. Roche and Sanson mention that arteritis is an occasional, but not a constant cause. Delpech advised the use of general and local bleeding, but lived long enough to admit their inefficiency. There can be no question that arteritis is an occasional cause, and that this state may be relieved by blood letting; certain cases mentioned by Dupuytren are clear evidence of this fact; but those cases unquestionably constitute a very small minority.

From mechanical, chemical, and physical agents.—We may now consider the mode of action of our second class of causes of mortification. The violent action of mechanical, chemical, and physical agents.

A contusion or laceration may be so violent as to utterly disorganize a part of the body; it may, however, stop short of that, and develop inflammatory action of so intense a character as to end in mortification. When the disorganization does not proceed so far as to destroy the nervous and vascular system of the part, many vessels may be ruptured, much fluid may be extravasated, and the solid elements may be so injured that life cannot be maintained. To the blue colour determined by the contusion, succeeds, after a few days, a livid slaty colour, surrounded by a more or less projecting inflammatory circle. Mortification extends to the limits of attrition. The disorganised parts are thrown off, and a more or less healthy wound remains. (See *wounds.*)

Intense heat produces upon the surface of the body an excitement which may be so great, as to interrupt, at once, the functions, or utterly to destroy the organisation of the part, and at the same time we may see all the intermediate stages between the two extremes. A certain extent of destruction of the living tissues may be effected at once. More may succeed to the intensity of the inflammation developed. But these cases will be better considered when we come to treat of burns.

Intense cold.—The human body is capable of resisting the depressing influence of very intense cold. In Captain Back's last expedition, they were exposed to the effects of a temperature 70° below zero, without harm, but then there was no wind. A temperature of 60° minus, with a breeze, was almost insupportable; the abstraction of heat under these circumstances being so much more rapid. If the variation be sudden, a much higher temperature will be found to produce gangrene. Larrey never saw it occur in the French armies except in a thaw. In the Polish campaign the soldiers bivouacked six days on the snow in a cold of 15 degrees, but as soon as the thermometer rose to 4 or 5 degrees above the zero of Reaumur, a large number of feet were frost-bitten. In 1795, during a very intense cold of twenty days, there were no cases of gangrene, but no sooner did a thaw come on than the sentinels were found dead at their posts; from these and many similar observations it will be seen that the danger is much less from intense cold, than from the sudden change from a very low to a much higher temperature. The influence of a sudden change of temperature upon the frost-bitten parts of the living body is unquestionable; it rapidly induces gangrene. I do not, however, mean that cold of itself is insufficient to induce gangrene, though the proof is not easy; I think that when congelation is promptly brought about, or is long in action, that gangrene may be immediately produced, but we are not certain that it is so until putrefaction commences. There are other circumstances which favour the action of cold in producing mortification; any debilitating influence, fatigue, want of food, intoxication, or sleep, accelerates its development; this is abundantly shewn in the Narrative of Sir J. Bankes and Dr. Solander. There are, however, peculiar dispositions and circumstances, which appear to give increased power of resistance. Maniacs have been exposed through a whole night, uncovered, to the rigours of the most severe nights of winter, without experiencing any accident.

Frost bite first affects parts far removed from the centre of the circulation, the hands, the fingers, the nose, the ears. The local circumstances vary with the intensity of the cold, and the condition of the individual. When not very intense, the skin presents a dull red colour, it is accompanied by a stinging pain, by numbness, and motion at the part is difficult; when more intense, vesications may appear; movement is still more difficult. If still more energetic, when we puncture the vesications we see under them white, grey, or livid spots; these are sloughs like those of a burn. If it be still more intense, the skin is pale, dull, and without colour, or it may be greenish or blackish. No sensation exists at the part; pinching or squeezing, however severe, is not felt. At its extremest point a limb may be

frozen through, it is then totally without motion, completely insensible.

Treatment.—In the treatment of mortification from cold, one thing must be especially guarded against, the sudden increase of temperature; the patient should not at first be placed near the fire, nor in a warm room, because it is only by very gradually increasing the temperature that vitality can be restored; so that the course to take when we are uncertain of the extent of injury, is either to plunge the part in cold water, or to rub it with snow or pounded ice. As the surrounding parts are restored, the temperature must be raised until the water is luke-warm: but with the return of the circulation around the part, the parts become greatly swelled, and to prevent this, the part should be carefully bandaged. If there be vesication, the vesicles should be punctured, and covered by some opiate lead cerate, or aromatic fomentations.

With respect to the mortified tissues, they must be treated in the same way as when mortification succeeds to other causes. If the limb, under this kind of treatment, exhibit no appearance of vitality, we must not at once resort to amputation: we must employ irritants, we must make deep incisions, or even apply electricity, to ascertain how far the mortification extends. If we amputate before we know the limits of the disease, we may operate on a dead part, and have a gangrened stump. We must, therefore, if nature seems tardy, use stimuli for the purpose of exciting the development of inflammatory action.

From acids and alkalies.—Certain energetic stimuli are capable of effecting the complete destruction of our tissues chemically. Among these may be enumerated mineral acids, caustic alkalies, in a concentrated form; their effects upon a part are not very unlike those of heat. Some persons are unwilling to regard the condition thus produced as mortification, because "they disorganise the tissues by attacking one or more of their elements, and in this way forming new combinations, which life cannot animate; the eschars produced in either case presenting special characters, not exhaling a fetid odour, not decomposing like ordinary sloughs, and not ordinarily extending beyond the parts on which the impression is at first made. In the skin, where we most commonly witness the effects of such agents, the appearances vary much; it may proceed from simple vesication to complete charring. In the gullet and stomach it is not my business to describe the appearances presented; they may be found delineated carefully in some plates accompanying Dr. Roupell's memoir. These wounds are usually very painful, so much so as often to render it necessary to exhibit large doses of opium frequently, and to apply opiates with lead externally.

From extinction of nervous energy. — It seems to be a matter of doubt whether the extinction of nervous energy in a part is alone sufficient to produce gangrene; it is, however, believed that occasionally the section of the larger nervous cords may produce such effects. Haller performed an experiment as some kind of test on the subject, but it is inconclusive; he sought to destroy all the larger nervous cords, but their vessels were destroyed at the same time, and many branches of nerves must still be left. The loss of sensation and motion are the usual consequences of the most profound lesions of the nervous system, but not gangrene. I apprehend, therefore, that when this effect is brought about, it is by two concomitant lesions, it being scarcely possible to produce one alone. Although section, compression, or other mode of destruction of nervous trunks, be insufficient to produce mortification of the parts upon which they are distributed, as is shewn by the experiments of Hébréard, it seems to afford great facility to the development of mortification. It is well demonstrated, for instance, that in the operation for aneurism, gangrene supervenes much more easily when large nervous trunks have been tied with the arteries, than when the artery alone has been comprised in the ligature.

Deleterious agents. — Certain deleterious agents introduced from without may induce mortification. The deleterious agent may be generated in a healthy animal—may succeed to a bite inflicted by the animal—the cobra di capello, the rattlesnake, the viper, and other reptiles. By some it is thought that the first change happens in the blood; that it is by this that death commences, to be afterwards communicated to the solids with which this fluid is in contact; by others it is believed that the symptoms are consequent upon very violent local inflammation; in some cases local mortification does occur, and to these we shall refer in treating of poisoned wounds.

Malignant pustule—Charbon.—Malignant pustule or charbon, for I hold both to be varieties of the same species of mortification, depends upon the introduction into the economy of animal matter in a certain stage or kind of decomposition. The contagious element seems to be produced in particular diseases of horned cattle; therefore, as might be expected, those people occupied about such animals are the most frequent subjects of this disease. Bertrandi mentions two cases in which gnats were the agents of the inoculation of the

septic matter. The butcher who kills, and the persons who eat the flesh of animals thus affected, may equally suffer. Persons who wash the hides, curriers, and tanners, are frequent victims. Malignant pustule is usually a slightly projecting tumor, hard, very painful, of a bright red colour towards the circumference, livid or black towards the centre. The colour of the mortified part is just like that of charcoal. When the disease proceeds from the use of this septic matter as aliment, there is early and rapid prostration, and great alarm; there is burning heat and great pain; there is in the inflamed circle, much laneination, and distressing constriction; there is high fever, a quick, small, concentrated pulse; sometimes it is large and powerful: the skin is dry, the eye is fixed, the countenance is unquiet. Sometimes there is unassuageable thirst; in some cases there is discomfort and palpitation at the heart.

A distinction has been drawn between "charbon" and malignant pustule; it is believed that charbon may be developed under atmospheric influences; that malignant pustule cannot: that malignant pustule is not, like charbon, preceded by a specific fever. It is in malignant pustule only that the enormous and frequently emphysematous tumefaction of the surrounding cellular tissue takes place, whilst in charbon the tumor is circumscribed, glistening, deep red at the circumference, a charcoal-like black at the centre, and accompanied by acute strangulating pain, which is not observed in malignant pustule.

The subject is undoubtedly obscure; the differences are not substantial; the evidence of Bayle in favour of the opinion that "charbon" may be developed under atmospherical influences, and exist as an epidemic, is not proved. If there be actual well defined distinctions, further pathological researches are necessary to make them out. If we admit some statements in the etiology of malignant pustule, they would establish near relations between it and "charbon" developed by contagion, since, by a singularity inconceivable in theory, the same disease, "charbon," may produce, by contact of the septic matter with the blood, two different diseases, charbon and malignant pustule. Examinations after death shew the blood in the large vessels coagulated; whether venous or arterial, it is black as charcoal. The viscera nearest the seat of disease are black and sphacelated. If the tumid part be cut into, the muscles and vessels are found black, macerated, and mortified; the bones near the point are black, the effects extending even to the medullary canal.

Treatment.—The course which has been pursued in the treatment is, in the first stage, if there be much excitement, to bleed; soon after to exhibit an emetic of tartar emetic; to persevere in the use of saline emetics as far as may be necessary to keep the bowels free. If the tongue continue loaded, a second emetic may be given. If there be prostration, the pulse small, concentrated, intermittent, the heat depressed, it will be dangerous to bleed. Stimulants and cordials must be exhibited; but if the strength will allow of it, much relief is usually derived from an emetic; in these cases bark, with ammonia and æther, have usually a very good effect. When the pulse is not much affected, the strength not impaired, we should not bleed, but we should exhibit one or more emetics, and continue the saline antimonial treatment. Many persons employ externally escharotics; but usually they are too slow in their action, unless previously free incisions have been made through the diseased structure. Others have recommended the removal of the tumor with the knife, and that immediately afterwards a stimulating application of gum resins should be made, to excite suppurative action. Others have used the actual cautery, followed by mercurial inunction around the cauterised parts. Veterinary surgeons usually extirpate the tumor, if it be not large; they circumscribe with a red-hot iron those which are, and then remove the central part.

From ergot of rye.—That kind of mortification produced by the use of ergot of rye, as an aliment, has been more destructive than all others. Though we have every reason to suppose that the epidemic which visited Paris and the surrounding country in 945, Upper and Lower Lorraine in 1090, Dauphiny in 1096, was this species of mortification, it was not till 1596 that the true cause of this disease was suspected by the faculty of Marbourg, upon the occasion of such an epidemic occurring in Hesse. No precise ideas existed on the subject before 1630, when Thuillier offered proofs in support of the opinion, that it was owing to the use, as an aliment, of ergot of rye. In 1672 Perrault made a similar report to the Academy of Sciences; in 1747 Duhamel reported upon that of Sologne; in 1780 the Abbé Tessier published, in the Memoirs of the Société Royale de Medicine, the results of an extended series of experiments, which he undertook, upon the subject. Dr. Thomson, in his work on Inflammation, relates the particulars of numerous experiments undertaken upon ducks and pigs by Tessier.

The disease so produced is presented

under two different forms—in one it is a dry gangrene affecting the limbs, in the other it is a convulsive disease, accompanied by vertigo; the latter is the convulsio cercalis of Linnæus, convulsio ab ustilagine of Wepfer, convulsion de sologne; the former is the necrosis ustilaginea of Sauvages, the gangrène des Sologinois. Whether these be two forms of a single disease, or different diseases, is not well determined. Thuillier, Tessier, and others, state that, when animals, such as ducks, hens, dogs, rabbits, and pigs, are fed with food containing varying proportions of spurred rye, they first exhibit, after some days, convulsions, which are succeeded by gangrene of the rump, the ears, the feet, and the beak in birds; they *consequently* maintain that the convulsive symptoms characterise the first period of the disease, the gangrenous the second. Linnæus thought the disease was owing to the ingestion of raphanistrum, which in certain years grows plentifully with rye. He made some experiments in support of that opinion: having fed fowls with these grains, he found that spasmodic contraction of the feet was produced; but, supposing these to be admitted, it only proves that the raphanistrum, as well as the ergot, may excite convulsive action. Many persons have gone still further, and endeavoured to prove, by experiment, that the ergot exercises no deleterious effects upon animals. These experiments would seem to shew that the proportion was too small, or the ergot not good.

I made a series of experiments upon rabbits, but, although I exhibited the spur in considerable quantity, I produced neither convulsion nor gangrene. Rabbits do not take this substance willingly, therefore I had an infusion made, and as much oats steeped in the fluid as would absorb it; in this way the quantity administered was three drachms daily to each. But although the infusion did not destroy the rabbits, the residue was thrown on a dung-heap, and picked up by fowls, many of which it destroyed; they were not, however, convulsed, but a quantity of sanious fluid escaped from their nares. There is yet another reason for the belief that the diseases are different; the epidemics of convulsive disease from ergot have been comparatively few; in 1596, in Hesse, in 1648-9 and 1675 in Voigtland, in 1702 in Fribourg, 1716-17 in Lusace, Saxony and Sweden, 1722 in Silesia, 1736 in Wurtemburg. Schmeeder states that in 1716-17 the rye contained one-third ergot. In 1736 Serine saw 500 patients suffering from the convulsive form of the disease. The disease commenced with an uncomfortable sensation in the feet, a sort of tickling or burning, soon followed by violent pain in the stomach; the hands become affected, then the head; the fingers are contracted with great force; the articulations appearing as if luxated; the body is curved as in opisthotonos; the tongue is often much injured by the teeth; the patient cries out, complains of the burning of the feet and hands. When the paroxysm terminates, the head hangs, there is vertigo, either double vision or loss of sight; there is melancholy or mania, and appearance like intoxication—sometimes coma: at other times the patient is quiet, but there is insatiable hunger. Most of those in whom the symptoms are epileptiform, die. The disease lasts from a fortnight to three months, with intervals of quiet. The gangrenous form commences with the principal symptoms of the convulsive form, but sometimes there are no other precursory symptoms than an extraordinary lassitude in the inferior extremities, which is felt, together with violent deep-seated pains, exasperated by heat, with more intense pain during the nights. These continue till gangrene is developed, which is often not for a fortnight; sometimes there is slight tumefaction, but without redness; sometimes the limb is shrivelled; the skin is discoloured, is cold to the touch, sensibility has disappeared;—and even up to this time pain is often felt. Soon vesications appear, the skin becomes violet or black, at first at the toes, then at the foot, and afterwards the leg. It may extend to the trunk when the patient dies, or it may be arrested; an inflammatory circle is developed; abundant and fetid suppuration is established. All the parts gangrened are dried up, hard, and charred as it were; sometimes the whole limb is detached without a drop of blood, and a crackling is heard during the separation.

Anatomical investigations do not furnish us with any evidence as to the nature of this disease, neither does analogy. Roche sought to prove that the gangrene was preceded by arteritis, which was excited by the ergot; and he bases his opinion upon a supposed resemblance between this affection and gangrena senilis. Even if these were an analogy, it would not support him, for arteritis is frequently wanting in gangrena senilis.

This disease has been treated by emetics, sudorifics, stimuli, and opium.

Gangrene of Infants—That singular disease, gangrene of infants, is usually manifested in a very insidious manner; a slight, indolent, and scarcely perceived swelling is often the first sign. It is not long before the centre of this tumefaction, situated on the mucous membrane of the gums or cheek, becomes red, hot, and burning; a grey spot or slough appears.

The pain increases, the swelling is greater, the heat and pain become intense, and the progress is so rapid that in a few days a considerable portion of the gums, the cheek, the tongue, or even the maxilla, may be destroyed. Sometimes it commences with a superficial whitish ulceration, neither very extensive nor very painful, and occasioning little inconvenience. This may continue in such a condition for some time; suddenly the opposite cheek or gum is affected; there is swelling of the lips, the eye-lids, and the temporal region; these parts are shining, œdematous, and slightly red. The smell from the mouth is very offensive, and a sanious saliva constantly escapes, especially at night. During the existence of these symptoms the general health is often wonderfully little affected. But after a few days, there is suddenly manifested, on the outside of the cheek, corresponding in position to the internal affection, a yellowish spot which soon becomes brown, then black, and it increases very rapidly, affects the whole cheek, the lips, the eyelids, the gums, the tongue, and other parts of the mouth. The structures soften, putrefy, and are thrown off in masses; the smell is insupportable, the bony structures are exposed, and horrible mutilations succeed, if the patient do not die. Although the general symptoms are not commensurate with the ravages of the disease, yet as it advances the respiration is troubled, the pulse is feeble, and a diarrhœa of a very offensive kind occurs: death seems to be brought about more by the respiration of the putrid exhalation than by actual sympathy with the local disorder. Isnard has described a similar kind of gangrene affecting the genitals of young female children. It commences by a slight ulceration of the mucous surface of one of the labia, which becomes œdematous, and this œdema extends to the neighbouring parts; the ulceration proceeds, becomes gangrenous, and affects the whole of the external organs, as well as the parts in their vicinity. The ulterior progress is like that of the affection we have already described—death rarely occurring before the eighth to the twelfth day. In these cases it is not uncommon to find traces of gangrene of the stomach, the lung, or other viscus, either from the extension of the external disease, or what is less probable, from their having been only secondarily affected, by the absorption of putrid molecules.

Treatment.—The gangrene of infants always requires very energetic treatment. Whatever may have been said to the contrary, it clearly is not contagious, but it excites an exhalation of an extremely fetid character, so much so as to render it necessary that other children should be removed, and that the sufferer should be isolated. As soon as the grey, sloughy, ulcerous spots are developed, they should be touched with a mixture of equal parts of hydrochloric acid and honey; but this will not be effective unless the ulceration be very superficial; in bad cases, chloric acid, or the butter of antimony, must be used in an undiluted form. Some persons have used the actual cautery with great advantage, and with less pain than many other caustics; and where it can be easily used, which it usually can on the genital organs, its influence will be found to extend to the adjoining tissues; it will change the kind of irritation in them, concentrating the disease at the particular points. Wherever the occasion is urgent, we should never lose time by using escharotics, but at once resort to the actual cautery. We must take means at the same time to prevent the deglutition of putrid matter, which will have a pernicious influence upon the system. The child should lie on the side corresponding to the disease, to favour the escape of the fetid saliva. Injections of bark, hydrochloric acid, and honey, should be frequently used, with about a fourth to a half of chloride of soda. No emollient cataplasms, nor mucilaginous fomentations, should be used; they relax the parts, and are more injurious than useful. During the time we are treating the affection locally, we must sustain, as far as possible, the strength of the patient.

SCORBUTUS.

Nature.—Scorbutus is a disease which at a certain period of its existence affects both the solids and fluids of the body, producing in all a loss of cohesion, and therefore merits the name "morbus totius substantiæ;" it spares neither the hardest nor the softest tissues, not unfrequently attacking and breaking down the bond of union of old fractures.

Causes.—Among the causes of this disease, some act by means of the nutrition, some directly upon the nervous system, others upon the fluids. My own opinion is, that the greater number act upon the nutritive organs, but when the deterioration of the body has arrived at a certain point, the disease may be developed by action upon the nervous system. To shew the effects of moral agents, it is only necessary to refer to armies—encamped near each other, the one vanquished or retreating, the other victorious—the one comparatively free from scorbutus, the other desolated by it. It has been very generally believed that salted food taken exclusively through a long voyage is an energetic cause of scorbutus, and much

evidence might be adduced in support of this opinion; but then the disease has often happened on land, and without the use of salt provisions. Indeed, it would seem to be a consequence of decomposed rather than salt food. If you examine casks of salt provisions, when in use, you will be sensible of a smell indicating some alteration. Damp cold, especially when long continued, is no doubt a powerful cause; this has in our own land, not many years ago, seemed to excite its development in prisons. The want of proper clothing is also regarded as a cause. It has long been considered that depressing mental affections exercise considerable influence; this was strikingly exemplified in the Russian campaign by the French; the latter experienced all the horrors of cold, hunger, dysentery, and typhus, while the former were comparatively exempt from it.

Lord Anson, during his long voyage of circumnavigation, lost out of the two vessels under his command only one man, and he was supposed to be affected with phthisis. Cook and Lapérouse's long voyages were made without any loss from scorbutus; but this was no doubt owing to the admirable precautions taken; they had music, dancing, plays, and every care was taken to prevent bodily exhaustion or mental depression; and still farther to remove every chance of such influence, the men were prohibited from any games of chance for money.

The disease is most frequently seen n winter, and then also the symptoms are most violent. Next to cold and damp, close or warm damp weather seems to excite the development of scorbutus. Although a contrary opinion has been expressed, we have no evidence to support the opinion that it is contagious. It is true, no doubt, that where three persons, suffering from scorbutus, have been confined in a small room, that the disease has been developed in a fourth, but this is not proof of contagion; the fourth has been subjected to the same influences as the other three, but has resisted longer; no doubt the fetid exhalations proceeding from the other three, and accumulating in a small room, may accelerate the development of the disease in the fourth. Nostalgia has in many cases, by inducing mental depression, apparently predisposed patients to scorbutus.

Symptoms.—Whether the fluids or solids be first affected, is a fact not well determined; in some cases it would appear probable that the solids first suffer, but when we reflect upon the probable causes—depressing passions, bad food, and so on—it is more natural to believe that the solids are secondarily affected. The muscular tissue suffers early, profound lassitude is one of the earliest symptoms; the pulse is low, the appetite indifferent; what remains is singular, an appetite for acid or highly seasoned food, an instinct as it were. In a second stage we observe petechiæ; the blood being so thin that it appears capable of exuding through the vascular parietes; the gums swell and become brownish or blackish, a fetid puriform secretion is furnished by the mucous membrane, reflected towards the roots of the teeth, which are loosened and drop out; aphthous ulcers are seen about the mouth and fauces; the legs are infiltrated; the extravasations of blood under the cutaneous integument become numerous and variable in extent, they are in colour brown or blackish, livid or violet, and often surrounded by a yellowish areola; sometimes these extravasations occur in the muscular interstices, and are very considerable; in these cases I have no doubt that vessels give way, are ruptured, for where injections are made after death the matter escapes in masses at these points. When the progress of the disease is rapid and the patient feeble, it may destroy life in ten days or a fortnight, sometimes even sooner than that; but if the constitution be good it usually lasts longer, and in such cases it is usually cured. Those points of extravasation sometimes end in ulceration, or if wounds exist they will assume a similar condition, of scorbutic ulcer. The disease is then very serious, because the pressure made in different parts, even by the softest bed, will determine new ulcers. The pulse then becomes extremely quick and weak; hemorrhage from the urinary organs occurs; hemorrhage, very correctly named passive, and very difficult to arrest, follows from the intestinal surface. The lungs become congested, like a sponge, and respiration is no longer possible; if we examine the lungs after death, they break down between the fingers on very slight pressure.

Pathological characters.—It is not difficult to observe the changes which the disease brings about in the solid organs; the bodies of those who die are decomposed with extreme rapidity, the tissues are more or less infiltrated with blood, and they break down under slight pressure; in many cases the bones become extremely fragile, so much so that they may be fractured on the slightest exertion. The blood is more fluid than in health, its coagulum is very soft, and the proportion of fibrine is very small, or it is much changed in character. The excretions give evidence of these changes, the expired air is tainted, the urine is fetid, the alvine evacuations are often at the same time both very fluid and very fetid.

Scorbutic ulcers have generally raised bluish edges; they, therefore, look deeper than they really are; still they sometimes are deep excavations; the secretion is a brownish, thin, sanious fluid, sometimes presenting the appearance of a thinned coagulum; it is very fetid, and when you wipe the wound gently you do not find separate red conical granulations, but a flattened brownish bleeding surface; very often a considerable hemorrhage takes place from it; not by a jet, but from numerous points, as when water is squeezed out of a sponge. If in such cases a similar hemorrhage occurs from the nasal fossæ, the intestines or the kidneys, death may soon occur from exhaustion. When much advanced, a very constant symptom is tympanitis, the gaseous intestinal fluid accumulating because the muscular power is insufficient to produce its expulsion.

Treatment.—In the treatment of scorbutus hygienic means hold a most important place; fresh vegetables constitute a most desirable article of food, and a most important curative agent, more especially those which possess an acid and bitter principle; and those which will be found most useful are obtained from the family of Crucifera; gooseberries, rumex, cresses, and cochlearia. Besides these, lemon juice is a valuable agent; citric and tartaric acids certainly do not succeed so well. White wine vinegar diluted is a very good drink; diluted pyroligneous acid is not so advantageous. Beer well "hopped" is a good beverage, so also is spruce beer. When the hemorrhagic symptoms supervene, dilute muriatic or sulphuric acid, as well as extract of rhatany, will sometimes arrest it. As the base of alimentary regimen, acidulated vegetables, bitters, aromatics, must be used. In case hemorrhage complicates the disease it requires much attention and particular treatment. When near enough to the surface to allow the immediate application of topics, we begin by applying a piece of thin lint upon the point, and over it a sponge dipped in dilute muriatic or sulphuric acid, with slight compression; if this means be insufficient to restrain it, we have only one resource; cauterisation with the red hot iron. Caustics do not succeed. If, however, a considerable hemorrhage take place from the nasal fossa, we can rarely apply styptics directly upon it. In very debilitated patients this nasal hemorrhage may be enough to destroy life; and this may not even be suspected, because while the patient is lying down it may pass backwards into the fauces; it may pass into the stomach and be vomited, giving an idea of hæmatemesis. We cannot apply direct compression, or the actual cautery; all that remains is plugging; the fluid then collects in the fossa, and exercises compression. But it must be kept in mind that coagulation does not occur so readily as in ordinary epistaxis, where twenty-four hours is sufficient for the purpose; in scorbutus the plug must not be removed for two or three days. This, however, is not without inconvenience; the decomposition of the fluid sometimes irritates the fauces, so much as to produce ulceration. In intestinal hemorrhage you must not "plug the rectum," because the internal hemorrhage will continue, and nothing will be gained; therefore we must limit ourselves to the application of cold to the abdomen and perineum, and throwing up cold astringent injections. If it accumulate in a clot in the bladder, and block up the vesical orifice of the urethra, the bladder becomes distended, and the catheter must be introduced; in these cases you must choose a long catheter with large eyes; and through it, cold or slightly acidulated water may be introduced into the bladder. In dressing scorbutic ulcers you must avoid all relaxing applications; if lotions be used they should be acidulated with acetic acid, lemon juice, or they should have chloride of soda or lime; lint imbibed with one or other of these should be applied often; if very fetid the outer dressings should be impregnated with the chlorides, or powdered charcoal should be used. When they require more stimulation, styrax, turpentine, or camphor, may be used with other excitants. So long as the ulcers retain their violet or livid colour, or as they yield a sanious suppuration, this local treatment must be continued, but as soon as they arrive into a healthy condition simple dressing will be enough. Still, as there is always a tendency to relapse, the tonic regimen should be persisted in.

ON SIPHILIS.

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[Concluded from page 469.]

[*For the London Medical Gazette.*]

V. *Siphilitic Iritis.*—VI. *Siphilitic affections of the bones and joints*—VII. *Communication of siphilis by the mother to the fœtus in utero*—*Influence of the other parent*—VIII. *Peculiar circumstances under which secondary siphilis becomes contagious*—*Conclusion.*

V. Siphilitic iritis.—Siphilitic iritis is sometimes the only symptom ma-

nifested in lues. In this case the time of its appearance ordinarily ranges between two and five months from the commencement of the primary local disorder, but is occasionally extended to a year or eighteen months. Thus, when the only symptom manifested, iritis is rather later in its appearance than the secondary cutaneous affections.

Siphilitic iritis, however, is much more frequently met with following upon, or in immediate conjunction with, siphilitic skin disease. It is most frequently combined with lichen, next in frequency with psoriasis and lepra, rarely with cutaneous ulceration. A superficial inquiry would, indeed, lead one to the conclusion that iritis is less often connected with lichen than with psoriasis; the actual number of cases is greater in London, in which the latter combination takes place: but in London, psoriasis is a much more common secondary symptom of lues than lichen; and if this circumstance is allowed for, the most frequent conjunction will be found to be that between iritis and lichen. Another point there is which links still more closely these two affections. The outbreak of iritis often is simultaneous with the invasion of lichen, or follows close upon it; whereas, when iritis is combined with scaly cutaneous disease, it usually occurs at a remission of the latter, or some time after it has declared itself.

The following are the principal features of siphilitic iritis, well known to the English student of surgery, through the treatise of Mr. Lawrence on this subject:—

The iris loses its brilliancy, and appears dull and dark, and the beautiful fibrous arrangement which characterises it in the healthy state is either confused or entirely lost. A light-coloured iris assumes a yellowish or greenish tint; a dark-coloured iris, a reddish-brown. These changes, which are the effect of increased vascularity and infiltration with lymph, begin upon the free edge of the iris. Lymph then exudes upon the surface, either in numerous minute villous granules, producing an elevation or irregularity of the surface, of a reddish-brown or rusty colour; or in a considerable mass, or in masses of a light yellowish ochrey or brown tint, sometimes coloured with blood adhering to the iris; or, in addition, a thin greyish web or fibre of lymph stretches across the pupil, which is clouded, losing its clear black colour. Sometimes the loose lymph effused is sufficient nearly to fill the anterior chamber; sometimes the iris is pushed forward by its accumulation in the posterior chamber of the aqueous humour. Through the effusion of lymph, the edge of the iris becomes partially glued to the anterior surface of the capsule of the lens, and assumes, in consequence, an irregular figure. The points of adhesion that remain are sometimes so fine that the iris seems tied by black threads of its elongated inner membrane; through the alteration in its tissue, its motion is less free, and it gradually becomes more and more contracted: sometimes the minute aperture left is drawn away from the centre; sometimes the pupil is entirely closed. The vascularity of the eye, seen externally, is characteristically increased. At the commencement, the anterior part of the sclerotica exhibits a pale pink redness; towards which, and from the circumference, the vessels advance in straight lines, ramifying towards the front, and are finally lost in a red zone, which immediately encircles the cornea. If one part only of the iris is inflamed, this increase of vascularity is seen on the side alone leading to it. The vessels of the conjunctiva are affected in every degree, from the enlargement of a few in an arborescent capillary network, to the dilatation of all, giving to the entire surface an uniform fiery redness. Sometimes there is present the white ring, commonly diagnostic of arthritic iritis, between the red zone and the edge of the cornea.

Iritis is attended with intolerance of light, increased lacrymal discharge, burning sensation, and tension of the eyeball, deep-seated pain in the orbit, extending to the head, pain over the eye-brow, temple, and cheek, as if it were seated in the bone. But these symptoms are most uncertain, and been no proportion to the visible inflammation. The pain is chiefly at night, when it either comes on, or, if constant, is much aggravated. The constitutional symptoms are not less variable.

Iritis of the most acute kind is attended with severe febrile symptoms; with headache, restlessness, and want of sleep, with full and strong pulse; white tongue, thirst, loss of appetite,

and costiveness. Often, however, even in cases that would be termed acute, such symptoms exist only in a slight degree, or are entirely wanting.

The rate of progress, again, of the disease, and the impairment of the organ produced by it, are equally various. In the course of four or five days the pupil may be filled with lymph, and vision extinguished; or at the end of several weeks there may be no permanent change of structure or injury of sight. When the disease goes on unchecked, it may extend itself to the external and internal tunics of the eye: the cornea becoming dull and nebulous, the chorion and the retina involved, with increase of pain and fever, and ultimately irrecoverable loss of vision, from change of structure in the retina.

In the treatment of siphilitic iritis it is required,

First, that the edge of the pupil be drawn out of the way of contracting adhesions to the anterior surface of the capsule of the lens. This is effected by rubbing the moistened extract of belladonna upon the brow.

Secondly, that the local inflammation be subdued, which will allow of the lymph effused becoming absorbed, and render the aqueous humour again transparent. This is most certainly effected by exciting srong mercurial action. If the complaint is taken at the commencement, and mercury is given to the extent of producing ptyalism, its further exhibition is generally unnecessary; if the complaint, when it falls under treatment, is already advanced, mercury should be given to touch the gums, and the action may be required to be maintained at this point from a month to six or eight weeks;—it is to be maintained till the increased vascularity has disappeared, the red zone around the cornea gone, and the natural colour of the iris returned, till the lymph has been absorbed, and vision is restored.

Thirdly, but first in practice, that the inflammatory state of the habit and of the general circulation be subdued; which, if it continue, will keep up the local action against the strongest agency of mercury alone. For this purpose, according to the state of the pulse, free venesection or cupping on the temples, or leeches only, are to be prescribed; remedies which have generally to be repeated in the course of the treatment, as the pulse fills again and reacquires strength. In conjunction with the first general or local abstraction of blood, an active aperient, and salines with tartrate of antimony, are to be given. The patient is, with the same general view, to be kept perfectly still, upon low diet, and in a darkened room.

As I have nothing to add to what is known through the labours of others on the subject of siphilitic iritis, I will not occupy the pages of the GAZETTE by extending this brief sketch of its simplest features, and of the leading principles in its treatment.

VI. Siphilitic affections of the bones no longer present the formidable characters which I can remember having witnessed as a student in London hospitals, although then becoming less frequent, and attributed by surgeons to the excessive use of mercury in habits tainted with siphilis. Now that mercury is rarely given to the extent of producing salivation, and is not indiscriminately prescribed for every case of lues, the bones seldom become seriously or generally diseased.

The bones are the parts last attacked in lues. The disorder is liable to manifest itself in the cranial and some of the cylindrical bones, when scaly cutaneous disease has existed for some months continuously or remittently; sometimes when the scaly eruption of the skin has been trivial and early subdued, affections of bone supervene considerably later, no other siphilitic symptom then being present.

Siphilitic affections of bone comprehend periostitis, inflammatory enlargement of bone, and caries. The term node has been applied indifferently to the first, and to the second, and to the third before the integuments have ulcerated; strictly, it should be appropriated to the second.

Siphilitic periostitis generally occupies an oval surface of the membrane, from an inch to four inches in its long diameter. Its common seat is the subcutaneous aspect of the tibia, next the posterior edge of the ulna: of the cranial bones, it most frequently attacks the os frontis. The fibula, the lower end of the humerus, the clavicles, are occasionally the seat of this affection. The superficial bones are certainly the most frequently attacked; but any bone of the skeleton, I presume, is liable to be attacked by siphilitic periostitis. The swelling upon a bone is known to

be periosteal by the short time it has existed, and by a certain degree of softness or compressibility on the swelling. It is tender on pressure, and aches intermittently, especially in the night. When the disease persists, either enlargement of the bone or superficial caries may follow. Inflammatory enlargement of bone, of siphilitic origin, is generally partial, and occupies not the whole circumference of a cylindrical bone, and but three or four inches of its length. When it attacks the cranium, it is generally equally limited in extent. Sometimes, however, great part or the whole of the cranium is thus affected, and I have known the whole of both tibiæ so enlarged.

Siphilitic caries has now its most common seat in the head, turbinated, and palate bones. When mercury was immoderately given, siphilitic periostitis of the tibia and other cylindrical bones, often went on to caries. I had a skeleton in my possession, every bone of which was affected with superficial caries, and in several the disease had gone deeper.

Siphilitic caries is attended with severe nocturnal pains. It is slow in its progress; the initiatory painful and tender swelling over the bone exists for many months before suppuration of the cellular tissue supervenes, and the skin becomes inflamed: the latter finally ulcerating exposes diseased bone. Antecedently to such abscesses opening, the pain sometimes acquires great intensity, through the tension of the periosteum; it may then be relieved by a free incision down to the bone; upon which a glairy honey-like matter is found in the cancelli of the carious bone. From a carious tibia, small exfoliations are liable to take place; from the cranium, either numerous small pieces or one large one. In the bones of the extremities siphilitic caries is sometimes superficial, sometimes it is extended to the medullary cavity. In the cranium it always involves the diploe, and often the inner table. So the dura mater and the membranes of the brain are liable to become affected; the dura mater has sometimes sloughed, and hernei cerebri has followed; or the patient has died of arachnitis. In one instance that I remember the patient died of abscess in the lungs, excited by a portion of the basilar process of the occipital bone, that had exfoliated and dropped down the trachea.

For each of these affections any of the anti-siphilitic remedies but mercury may be recommended, but certainly the decoction of sarsaparilla with the iodide of potassium is here again the most efficient. Nevertheless, when mercury has not been recently given, and the constitution is unbroken, it may be used with benefit either in periostitis, in inflammatory enlargement of bone. To caries it is less applicable under any circumstances. When the pain and tenderness of siphilitic enlargement of bone is entirely gone, the swelling may take several months to disappear. No treatment is requisite, or ever materially beneficial. I have already given cases that may serve to exemplify siphilitic periostitis in the tibiæ, and necrosis of the bones of the nose: the following exemplifies caries of the os frontis, and inflammatory enlargement of the tibia.

A. B. aged 39, was admitted into the Middlesex Hospital September 17, 1839. Twelve years ago, a month before her confinement, she had discharge and swelling in the groin. The child was still-born. A month after her confinement she went through a course of mercury. In a year afterwards she had another child, which a few weeks after birth had an eruption on the skin, and pined; it died when twenty-seven weeks old. After this she had local disease again, and was treated for it. Without any positive complaint she continued after this in indifferent bodily health, when about four years ago ulcers formed on her shoulders and back, for which she took mercury, and her mouth was made sore. The ulcers went away in about eight months. Soon afterwards she was taken with headaches, and soreness and tumefaction of the left temple and of the right side of the forehead: the former went away gradually, the latter advanced. She has taken no medicine since, but has suffered greatly. During the last year she has had pains in the limbs, and pains in the head; they were worse at night, with perspirations, and great debility. She has a node upon the left tibia; and there is an extensive ulcerated opening of the integuments over the right and upper part of the os frontis, which is partially necrosed: this opening has existed many months. Upon her admission the iodide

of potassium was ordered in small doses with sarsaparilla, but it disordered her stomach and bowels; opium was then combined with it, and it ceased to disagree. Her amendment was very rapid; I removed a considerable portion of bone, which had become loose; the wound gradually closed; the node upon the tibia became painless. The iodide was not continued longer than a month: in two months she left the hospital with the sore on the head closed, and her health and strength restored.

In siphilis the joints are not affected with any regularity or constancy. The premonitory rheumatic pains sometimes, indeed, fix upon a joint instead of attacking the muscles; and the joint in that case is sometimes slightly swollen. The articular affection seems then to be seated in the fibrous tissues, and is of the same order with the periosteal tenderness that sometimes co-exists with it. In the articular affections which occur later in the disease, the synovial membrane is affected. I have mentioned that in the lichenous variety the knees and ankles are liable to swell. In a patient, a navy surgeon, who was some time under my care for secondary siphilis, and in whom the cutaneous disorder was psoriasis, one knee was swollen with fluid, and a moveable but adherent body softer than cartilage could be felt, which gave him all the inconvenience of a loose cartilage, and which he supposed to have been siphilitic in its origin. In another case, effusion into both knees in a woman co-existed with siphilitic ulceration of the throat and septum nasi. Fomentation with hot water is all the local treatment that I have found advisable in siphilitic synovitis; it soothes the pain, which is never very considerable, but is enough to to be very troublesome, being increased on giving exercise to the joint. One patient now under my care with siphilitic disease of the nose, had subacute inflammation of one knee-joint, which, after being troublesome for a year, went away upon her recovery from Asiatic cholera.

VII. The influence upon the offspring of a siphilitic taint in either parent is a most important subject of consideration. Much is known of the effects produced by lues when existing in the mother's habit. To describe it in brief I cannot do better than avail myself of the following remarks by Mr. Babington.

"When a mother," observes Mr. Babington, "suffers during the period of pregnancy from a constitutional venereal infection, she seems particularly disposed to miscarry. The abortion seems to be caused by the death of the infant, which is very generally born dead. If, however, miscarriage does not take place, it is most usual that the infant at birth shews no sign of disease. But at a variable period, generally from three to five weeks after birth, it becomes slightly indisposed. Then eruptions appear about the thighs and the gums, between the nates or on the pudenda. They wear the aspect of discoloured patches, generally affecting a circular form, with a shining surface, and some slight desquamation, but without the least tubercular thickening. As the disease proceeds, these patches enlarge, and eventually occupy almost the whole body; and in the folds they sometimes slightly excoriate, and even, near the anus, at the umbilicus, or in the female pudenda, form small and condylomatous excrescences. These ulcers, in many cases, take place in the interior of the mouth, and in the throat; the nostrils are partially obstructed by an increase of their secretion, and the voice becomes weak and hoarse. With all this there is much general indisposition."

The following case may serve to instance the foregoing statement.

—— A. B. shortly after her marriage, which took place two years and a quarter since, had a discharge and sores from infection by her husband; she went into the London Hospital, where she took mercury, which made her gums sore. Shortly after returning home she became pregnant; the infant was still-born at the seventh month; on her expressing a wish to see it she was given to understand that it was in some way disfigured, and that she had better not. She became pregnant again, and a male infant was born at the full time towards the end of August 1839. When it was five weeks old, however, she observed some spots upon the bottom, which looked as if they would break and discharge water, but they did not; instead of this they spread, and became as large as a sixpence or a shilling, having the character of lepra; they were circular, the central part flat and less red, the circumference raised, and of a deeper red; there was discharge from the surface of these, which lay on the opposite

surfaces of the nates; similar spots came out on the chin, on the anus, and legs, and body. The infant became an out-patient of the Middlesex Hospital the middle of October; the eruption on the nates had then the character above described, and the eruptions were coming out on other parts with the appearance of small glistening flat tubercles. Upon using mercurial ointment, ten grains of which were applied to the axilla daily, the spots gradually sank and faded, and new ones ceased to appear. But they returned, when mercury was again used, and they seem to have permanently disappeared.

I have another infant under my care with a parallel history, in which the eruption was papular: and in the female venereal ward is an infant under the care of Mr. Tuson, that was born covered with psoriasis, and that now has crusted ulcers on its brow and cheek; these are improving under the use of mercury.

It is not equally well ascertained what effects are produced by siphilis existing in the habit of the father; but it is extremely probable that instances of repeated births of still-born children, and of children of weakly frames, are attributable to this cause. In the case given above, the mother, who had borne the siphilitic infant, was to all appearance in perfect health, and thought herself so, at the time of her confinement. In the same way, while the health of the other parent may be seemingly good, he may yet not have worn a former disease out, and may remain not disinfected. I have already mentioned that slight excoriations of the throat or tongue, pains either at a single part or more general, pains in the head even of a positively intermittent character and observing exact periods, have been traced by myself to a siphilitic origin, and cured by antisiphilitic remedies. It is very possible that the repetition of abortive or vitiated production may sometimes admit of being avoided by the same means. More diseases, to look again more generally, are to be cured by ascertaining the condition of the habit, than by prescribing for the local symptoms. How many phenomena of surgical as well as of medical disease are dependent upon, and remedied by correcting, a gouty diathesis. The instances are doubtless much fewer, but in no degree less important, in which siphilis in the habit is the lurking cause of ambiguous indispositions, and its correction their cure.

VIII. I have stated that the matter of the sores of secondary siphilis will not convey siphilitic affection; this assertion requires to be restricted. It is so far true, that inoculation with this matter, as the experiments of Hunter and Ricord have proved, never produces chancre. But it is not the less certain that there are other circumstances through which the secretions of secondary sores may become the means of conveying siphilis. An infant that has the disease constitutionally from its mother, if it have sores in the mouth, may infect its nurse's breast, and the nurse will herself have constitutional lues; and the local soreness in the nipple will be capable of infecting another infant that she may nurse. Mr. Babington observes, "If such a child has sores in the interior of the mouth, and in this state suck the breast of a healthy woman, it is very common that the nipple should become ulcerated; and the ulcer will not resemble the fissures which are so common on the nipples of women who give suck, and which usually occasion no loss of substance, but will be a corroding ulcer, and will destroy the whole or the greater part of the nipple before it is healed. It also produces in general an enlarged gland in the axilla, which, however, rarely passes into suppuration. At an interval of some weeks sore throat, eruptions, or nodes, arise, which are in no respect distinguishable from the common forms of lues venerea. If a woman who has been thus infected by a child which she has suckled, suckles also another child which is healthy, no infection will be communicated, provided the sound child is kept carefully to the opposite breast, and is never allowed to take into its mouth the nipple to which the diseased child is applied. But if this precaution is not taken, and the children are applied indiscriminately to either breast, the sound child will contract sores in the interior of its lips; and these will be followed by scaly eruptions on the skin, exactly resembling those which are seen in an infant which has received the infection from its mother."

It is difficult, perhaps, to reconcile these facts with the results of the experimental inoculation of the matter of secondary sores. But two circumstances deserve to be adverted to in connexion

with the seeming contradiction, which possibly will find a common solution with it.

It has happened that men who have had siphilis, and appear to have been cured, shortly after marriage have infected their wives; or local disease and secondary symptoms have made their appearance in the wife, when her character rendered it impossible that she could have been otherwise infected, and when, on the other hand, the assertion of the husband, and all probability, have made it unlikely that he had contracted fresh disease. Now, as I have mentioned, psoriasis occasionally breaks out on the penis as an isolated secondary symptom, and the spot has then a moist surface if on the glans or reflected prepuce. It appears to me not impossible that from this source may have been derived the material of infection in these puzzling instances.

The next instance I hardly venture to add. No one believes cancer or medullary sarcoma to be contagious. I am fully persuaded that the matter of cancer, introduced into the skin upon a lancet, would not communicate cancer, as I know from my own observations, as well as from the authority of Hunter and Ricord, that the matter of secondary siphilitic sores, so introduced, will not communicate siphilis. But I have recently witnessed the following remarkable cases. A person not passed the middle of life three years ago observed swelling and soreness on one side of the glans and prepuce; an extensive, soft, irregular-shaped ulcer gradually established itself there; it slowly spread, and gradually swellings formed in each groin, which attained a great size, and ulcerated half a year ago. They are now two enormous wounds, deep and sloughing, with raised, thick, soft, everted edges, and having the peculiar fetor of cancer. Together with the penis they are the seat of a form of the disease in describing which, as it occurs in the female breast, I have used the terms soft or fungoid cancer. These great sores are free from pain. Two years ago the wife became aware of the existence of a sore and discharge of the vagina: a year and a half ago she miscarried. The sore in the vagina has since progressively enlarged, without pain. It is now a very large ulcer, occupying three-fifths of the circumference of the anterior part of the vagina, the edges irregularly eaten away, the surrounding texture tumid, soft, vascular; it has exactly the same character with the ulcer on the genitals of the husband. The disease is unquestionably cancer, and the same form of cancer in both; and it is difficult to refrain from conjecturing that it has been communicated by the party first attacked to the other, as it has been shewn that secondary siphilis may be, though not communicable by inoculation. Dr. Merriman, to whom I described these cases, mentioned to me that he attended a patient who died of cancer of the womb; and that her husband, who lived with her, had disease of the penis, for which he went into the Lock, where the penis was amputated.

Conclusion.

The extreme intricacy and complexity of the subject will form my excuse for recapitulating the views, both pathological and therapeutical, which I have endeavoured to establish in the preceding pages.

I. The first point of inquiry is the diagnosis of primary local affections, that are liable to be followed by constitutional lues. I have not thought it necessary among these to enumerate gonorrhœa. Either gonorrhœa never originates lues, or originates it in so few instances, that it would be extravagant to superadd to the treatment of that complaint a preventive course of mercury. The local affections, which are certainly liable, but in very different degrees, to be followed by lues, may be divided into three kinds: first, those which are again so rarely followed by lues, as to render a preventive course of mercury superfluous; secondly, those in which, though not unfrequently followed by lues, mercury is generally prejudicial; thirdly, those which are in a large proportion followed by lues, to the speedy cure of which, and to the prevention of the lues consequent upon them, mercury has been ascertained to conduce. The first kind includes warts, excoriations, herpes, accidental sores; the second ulcerative and sloughing phagedæna; the third chancre. Of the first class, of which I indicated the treatment, it is as well to add, that they should be cured as quickly as possible, because, when present, they increase the liability of infection. Of the second, the diagnosis and treatment admit of being

laid down with precision. Of the third, or chancre, I have endeavoured to describe the different appearances, which are so characteristic as to enable nineteen cases out of twenty to be identified, and an approximative conclusion to be formed as to the nature of the twentieth doubtful case.

II. The treatment of chancre has to be considered alternatively, in connexion or not with a preventive course of mercury.

But first, and before any other consideration, it is to be noted whether the habit of the patient is plethoric, and the condition of the sore and of the part inflammatory; in which case, and before all other treatment, and as a necessary preliminary, venesection and free purging should be adopted. It is important thus prominently to dwell on this point, because the proportion of cases, for the success and good management of which depletory practice is necessary, is small, and therefore the principle is liable to drop out of the timely recollection of the surgeon.

The rules for the treatment of chancre without mercury are not positive, but either of the practices which I have explained may be followed. The rules for conducting a mercurial course, and for the management of the accidents liable to attend it, and of the accidents of primary siphilis itself, are unattended with ambiguity. The great question which remains is, the propriety of combining a preventive mercurial course with, or making it part of, the treatment of chancre.

The arguments against the use of mercury rest upon the facts,—that a mercurial course is a serious inconvenience to any one, and that to several it is extremely prejudicial;—that every primary sore may be healed without mercury, although some are healed more readily and soundly when that remedy is used;—that the most serious forms of lues, ulcerative cutaneous diseases and iritis, namely, are not capable of prevention by a mercurial course;—that the other secondary symptoms are in the majority of cases of the non-mercurial treatment, extremely mild;—that they supervene earlier, and are sooner over, where a course of mercury has not been used for the primary complaint;—that the secondary symptoms, which occur where mercury has not been used, are in no cases more severe than in many in which the mercurial treatment has been followed;—that mercury does not prevent, but only lessens the frequency of constitutional lues, its direct action apparently being to put off the invasion of lues so long, that in a certain proportion of cases the impression of the taint wears out before it has given rise to secondary symptoms. These considerations are so favourable to the non-mercurial practice, as to render its adoption advisable in all cases in which, from inherited or accidental peculiarities of habit, mercury is likely to prove positively injurious; in cases in which the patient has unluckily, through the recurrence of primary sores, undergone several mercurial courses in a short space of time, and is weakened in health; in cases in which the primary sore has already existed a long time; in cases in which there is a reasonable doubt whether the local affection is siphilitic. The considerations which, on the other hand, favour the mercurial practice, are, that to persons of a good constitution a mercurial course, properly managed, does not prove injurious;—that secondary siphilis, when it breaks out without mercury, is sometimes extremely troublesome and lasting;—that on a comparison of all the evidence, there is reason to believe, that the proportion of cases in which secondary symptoms appear after non-mercurial treatment, is considerably greater than where mercury has been used;—that it is highly probable that among the attacks of secondary siphilis prevented by mercury, are several of the severest kinds, (setting aside the ulcerative and the iritic);—that if the general tendency of mercury, where it stops short of preventing secondary symptoms, is to protract the whole period of the disease; yet that this is not constant, and that without mercury equally lasting attacks are frequently met with;—that on Mr. Rose's own estimate, the proportion of cases in which secondary symptoms occurred upon the non-mercurial practice, is much higher than commonly imagined. Mr. Rose observes, that out of one hundred and twenty cases of venereal sores which he had himself treated without mercury, one out of every three was followed by some form or other of constitutional affection; "but this, however," he adds, "was in most instances mild, and sometimes so slight, that it would have escaped notice, had it not been care-

fully sought after:" and a similarly close scrutiny might detect many overlooked cases of lues after mercurial courses.—Finally, that in cases of indurated chancre, the period of recovery is much shortened by the use of mercury; that the sore is so healed thoroughly and soundly, and that all chance of the local complaint again breaking out is thereby put an end to; and the probability and risk of afterwards unsuspectingly conveying infection by this means avoided. Weighing these facts against those advanced on the other side, I think it fairly appears, that in a person of good constitution the treatment of chancre, taken at its commencement, should include a full mercurial preventive course. There exists indeed a middle plan, namely, to employ mercury to the extent alone that may be necessary for the cure of the primary sore. By this means several of the advantages of mercurial practice are certainly obtained, and most of its evils avoided. In general the quantity and duration of mercurial action required to heal primary sores does not amount to that which is supposed to be essential to the prevention of constitutional lues. This plan may be viewed as the most advisable practice in cases of unindurated chancre, when the disease has already gone on for several weeks without any use of mercury.

III. The symptoms of secondary siphilis are pains, eruptions, and ulcers on the skin, falling off of the hair, soreness and ulceration of the fauces and nose, iritis, swellings of the bones and joints. Each of these may form the only symptom manifested. But in most cases several are grouped together simultaneously or by succession; and the phenomena of the disease are conveniently displayed by supposing six modes of secondary siphilis taking as the type of each the features most developed in it: these six comprise three, in which the skin is the part permanently affected; one in which the throat, a fifth in which the iris, a sixth in which the bones, are the parts principally concerned. The rules for the treatment of each variety have some important shades of difference; but one principle, with the exceptions which I have specified, reigns throughout. The essential principle in the treatment of constitutional lues is to aim at subduing the present attack alone, keeping the patient during the remissions of the disease in perfect but not rude health by the strictest regimen and course of living, in the expectation that the disease will thus eventually wear itself out. In the choice of remedies to subdue each attack, exclusive of the iritis, mercury is to be shunned, or to be resorted to most seldom. Mercury acts only repellently in secondary siphilis; it does not then extinguish the disease, it only then, like the other antisiphilitic remedies, represses the present outbreak; the fatal character which the disease often wore, so recently as thirty years back, arose from men's constitutions being destroyed by repeated courses of mercury, given in the vain expectation of cutting short the disease, when in its constitutional form, and in the still more mischievous belief that nothing but mercury would cure even the present attack, and that the worse the symptoms grew under its administration, the more virulent must be the attack, and the greater the necessity for continuing mercury.

MR. ESTLIN ON THE PRESERVATION OF VACCINE VIRUS.

To the Editor of the Medical Gazette.

Sir,

May I be allowed the liberty of suggesting to those of your readers who are engaged in vaccination, the desirableness and the facility of keeping by them such a stock of vaccine virus as will render them independent of the ordinary means of procuring fresh supplies by sending to distant institutions? I am particularly induced to do this, from the repeated applications that have been made to me by the *same* individuals for some of the Berkeley lymph of 1838.

The plan I adopt is the following:—to have from one to two dozen ivory points made less tapering than those in ordinary use, of this size and shape,

and to charge them all from the first fine and perfect vesicle that presents itself, and then to cork them up in a dry two-drachm phial. If after a week or two another fine vesicle is met with, produced either by some of these charged points, or from a continued course of vaccination with fluid lymph, I re-

charge the whole set, leaving the original virus upon them undisturbed, and in this manner continue to furnish them with a fresh coating of lymph every two or three weeks as opportunity offers, re-charging such of the store as may in the meantime have been used. In this way, a supply of lymph that may be depended upon for re-producing the disease, will always be at command. I attach much importance to the selection of fine vesicles, before the areola has formed, from which the stock points are to be charged. I do not at all coincide in the opinion that lymph is the most active from those vesicles which yield it most scantily: a large pearly vesicle, pouring out lymph abundantly when its cells have been opened, from which two or three dozen broad points can be fully charged, is one upon which I place entire reliance; nor do I believe that the five points first charged will hold more active lymph than the five last applied to the punctured vesicle. In inoculating with broad points, the only certain mode is, to rub off the dry lymph upon the small quantity of blood that oozes from a cluster of minute scratches made with the point of a lancet upon the patient's arm. Fluid matter I always insert by means of a puncture in the skin scarcely sufficient to produce any appearance of blood.

I avail myself of this opportunity of mentioning, that having received from Mr. Ceely some of the small-pox matter which in the course of his beautiful series of experiments he had converted into vaccine virus, I have employed it in seven successive inoculations, and have never seen any vaccine vesicles finer, or more completely satisfactory, during their whole progress, than those produced by this lymph. In no case have I witnessed from the effect of Mr. Ceely's lymph the sore arms, owing to the deep extension of the inflammation into the cellular membrane, that were very common when the Berkeley virus of 1838 was first introduced, and which occasionally occur at the present time. The crusts on the fourteenth day following the use of Mr. Ceely's matter, have had, in all the cases I have seen, the projecting, tamarind-stone appearance, considered so peculiarly characteristic of the genuine vaccine scab. The dry matter retains its infecting property very well: some points which I had charged very moderately, re-produced the disease in its perfect form, at the expiration of seven weeks.

The lymph principally employed in this city is still that from the Berkeley stock, and it continues to give entire satisfaction.—I am, sir,

Yours faithfully,

J. B. Estlin.

Bristol, Dec. 20th, 1839.

VAGINAL CYSTOCELE.

To the Editor of the Medical Gazette.

Sir,

If the following case appear to you of sufficient interest, you will oblige me by its insertion in your journal.

Yours respectfully,

Jas. Bower Harrison,
M.R.S C.L.

Manchester, Dec. 19, 1839.

Mary Rush, æt. 30, was admitted a home patient of the Manchester Royal Infirmary, on the 24th of September, 1839. She was suffering from an inflammatory affection of the chest, which was relieved by cupping between the shoulders, and the other means which were adopted. On a subsequent visit, she complained of a swelling in the pudendum, which, from her representation, was considered as a prolapsus of the uterus. At her request, however, an examination was made, and the following was found to be the condition of the parts:—

The tumor of which she spoke protruded from the upper part of the vagina. It presented a pyriform figure, the neck being traceable to the urethra anteriorly, and the fundus projecting into the vagina posteriorly. Upon coughing, or making a forced inspiration, the fundus descended, and was thrown forwards, so as even to be visible at the vulva. As the uterus was easily discoverable behind the tumor, it was impossible to confound them, and the situation and attachment of the latter rendered it evident that it proceeded from a retroversion of the bladder. It is scarcely necessary to state that the discharge of the urine was much impeded by the displacement of the bladder, since the efforts which were made to expel its contents rendered the axis of the bladder still more at variance with the direction of the urethra. The vesical tumor was readily reduced by pressing it upwards

and backwards; and after its reduction, on placing the finger on the superior walls of the vagina, the relaxed state of the membrane was distinctly evident. The poor woman was unable to give any very satisfactory account of the origin of her malady, but it appears, that about six months ago she was delivered of a male child, and that the tumor was perceptible in a few days afterwards.

HERNIA OF THE CŒCUM.

To the Editor of the Medical Gazette.

Sir,

Should you think the following case of sufficient interest for publication, it is at your service.

Joseph Lovell, aged 72, died in the Union Workhouse at Toucester, Nov. 18, 1839. He had been the subject of irreducible hernia on both sides, for many years, which had gradually distended the scrotum to an enormous size; that on the right side contained the whole of the cœcum lying quite loose and unconnected with adhesions; that on the left side a portion of small intestine, but this had receded into the abdomen after death, leaving the communication quite open and very capacious, the two rings having become nearly approximated, and the obliquity of the inguinal canal lost. The superficial fascia and cremaster muscle were of a very dense structure.

The late Dr. Kerr, of Northampton, once attempted to reduce the hernia, with a view of letting the patient wear a truss, but his efforts were unavailing, and the man was sent home from the infirmary. He was able to walk about with the assistance of crutches, till within a few weeks of his death, though his existence was only a misery to himself.

Your obedient servant,

J. Collier,

Member of the Royal College of Surgeons.

Brackley, Dec. 18, 1839.

P.S. Cases of hernia of the cœcum are not of frequent occurrence. I witnessed one some years ago in Guy's Hospital, under Mr. Key's care, and which required an operation.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'Alembert.

A Treatise on the Diseases of Infants, founded on recent Clinical Observations and Investigations in Pathological Anatomy, made at the Hospice des Enfans Trouvés; with a Dissertation on the Viability of the Child. By C.M. Billard, D.M. &c.&c. With Notes, by Dr. Ollivier, of Angers. Translated from the Third French Edition, with an appendix, by James Stewart, M.D. London, Churchill, 1839. 8vo. pp. 620.

This work contains abundant proofs of the devotion and zeal for his profession, which marked the short yet brilliant career of Billard, and we are rejoiced to see it in an English dress, especially as the translation has been undertaken by a gentleman who has not merely confined himself to the duty of translating, but who has also added much valuable matter, in an Appendix of nearly a hundred pages. The situation which M. Billard held in the Hospice des Enfans Trouvés, in Paris, afforded him ample opportunities for investigating the various diseases to which new-born children are liable. The great point to which he directed his attention was to examine, in every fatal case, the appearances presented on dissection, and to compare the symptoms observed during life with the anatomical lesions by which they had been produced. The first part of the work describes the general phenomena which are presented upon examining the external condition of the child. The second part comprises the history of diseases developed both during intra-uterine life and after birth, to which is added a medico-legal dissertation on Viability, with reference to the pathology of new-born children. Although a moment's consideration must teach us the importance of attentively considering the general phenomena which mark the healthy condition of young infants, in order that we may more easily and more accurately appreciate the modifications they undergo in disease, it is as certain, as it is unfortunate, that the majority of practitioners overlook the advantages they would thus derive, and do not prepare themselves for forming

correct notions of the first signs of disease in infants, by due attention to the ordinary phenomena of health. Much, for example, may be learnt by attention to the "attitudes" of a young infant in health, the first subject upon which the author comments. A flexed position of the limbs, and the forward curvature of the trunk, constitute the peculiar position of a newly-born infant. It is difficult to point out precisely the different periods at which an infant assumes new attitudes: these vary according to the muscular strength or weakness. Even at the age of six weeks or two months an infant has scarcely power to support its head: it is too heavy for the muscles of the neck to support its movements. It is by no means useless to know these facts, for they serve to determine the time an infant may be carried in the arms without the danger of suffering from fatigue. The colour of the skin of young infants equally deserves our attention. Infants recently born are almost always of the same colour. "Blood predominates in their tissues, and communicates to them its hue; and the face, body, and limbs, are all strongly coloured. From the fifth to the eighth day after birth, this hue diminishes, but will in some cases continue a longer time: it is therefore difficult to indicate precisely its probable duration. This red colour is purely accidental, and upon its disappearance is followed by other hues of various character." Upon the disappearance of this reddish colour of a new-born infant there is often seen a universal tint of yellow, which physicians often erroneously regard as an indication of an affection of the liver. We agree with Mr. Billard that it is no proof of disease. In many instances we have seen the rosy hue of the surface of new born-children succeeded by a deep yellow tint without any sign of disease. At other times, however, the state of the excretions justifies the belief that the liver is not properly performing its functions. The remark that the "skin of a new-born child is covered with an albuminous paste" is liable to many exceptions. Many perfectly healthy infants have no appearance of the vernix caseosa cutis on the surface of their bodies. A case recently occurred to us, which we may briefly mention, as it illustrates a fact which may not be known to all our readers, and which is by no means unimportant, viz. that the colour of the skin of an infant by a negro father and a white woman is nearly the same at birth as the progeny of both white parents. A female servant in a family became pregnant by the black footman. She concealed her pregnancy till the moment of delivery, and when she was found to be in labour, the wife of the negro, who also lived in the house, declared that the child was either her master's or her husband's. The child at birth was perfectly white, and could not be distinguished from one of European parentage, and we had some difficulty in tranquillizing the suspicions of the mistress of the house, by assuring her that the child might yet assume the mulatto hue. On the third day after birth the chest became of a tawny colour, and in about a week the change extended over the whole of the surface of the body. Burckhardt, in his "Notes on the Bedouins," states that in complexion the Arabs are very tawny; the children however at birth are fair, but of a livid whiteness." Even the offspring of negroes are not born black, and the hair on the head does not assume its woolly appearance until some time after birth. M. Billard gives a long but by no means tedious account of the "separation of the umbilical cord." This subject has been much neglected, and is often of importance in reference to medical jurisprudence. The desiccation of the cord and the time of its separation from the abdomen, differ greatly in different infants. M. Billard draws his conclusions from what he observed in 86 children of different ages and sexes, all apparently in good health. Desiccation generally begins on the first or second day; sometimes, however, as late as the fourth. The third day is the usual period at which the desiccation of the cord is complete. The desiccation of the cord is altogether a physiological phenomenon, occurring only during life. That part of the cord attached to the placenta does not exhibit the phenomena of desiccation, like the portion attached to the child, but shrinks and decays like a dead substance, whilst the abdominal portion is not so affected. Here the desiccation ceases as soon as life is extinct: it either does not proceed in still-born children, or it is much retarded. In the dead body the cord undergoes a perfect decomposition, differing entirely from its normal desiccation. The conclusions applicable to

legal medicine upon examining the umbilical cord before its separation are, 1st, its desiccation cannot take place except during life; 2nd, its desiccation is suspended, or greatly retarded, by death; 3d, if the cord be fresh, or the shrinking but just commenced, the infant may have been still born, or have but lived a very short time; 4th, if the cord has already exhibited the begining of desiccation, or is completely dry, the infant has lived at least one day. The more recent the death of the fœtus, the greater is the dependence upon these conclusions. Such is a brief abstract of the apparently trifling, but really valuable remarks, made by Billard upon this hitherto much neglected point of physiology. Many interesting comments, with the same touch of original observation about them, are offered upon the separation of the cord. It usually separates from the fourth to the fifth day. "Our own observations would lead us to say that inflammation very rarely accompanies the separation of the cord from the abdomen of the child, provided indeed that the nurse does not apply any of her irritating "simple remedies" to hasten a process with which she ought not to interfere. We cannot therefore rely upon the absence or presence of a red circle round the navel, when we examine the dead body of an infant, to determine whether it died before, during, or after birth. The complete cicatrization of the umbilicus after the separation of the cord varies considerably, but it generally occurs from the tenth to the twelfth day.

Authors on legal medicine have endeavoured to draw certain inferences from the separation of the epidermis, in relation to the age of the infant, and M. Orfila, desirous of investigating the statements of Chaussier, Capuron, &c. upon this subject, has, with M. Thierry, made considerable researches, from which he has concluded that the epidermic exfoliation exhibits at first a preparatory stage, next an elevation of the epidermis, and lastly its separation. The result of M. Billard's observations is, that the epidermic exfoliation of young infants is a natural phenomenon, and is decidedly one of health.

Many interesting comments are made upon the means of expression in the infant, as its cry and expression of countenance, which however generally they may be, and in fact are disregarded, are in truth valuable assistants to us in determining the state of health. Most authors agree that the state of the pulse in children is much more frequent than that of adults; this is true in the great majority of cases, but it is subject to many exceptions, and M. Billard expresses his surprise at having often found the pulse of a newly born child as slow as that of the adult. Out of forty children from the age of one to ten days, there were as many in whom the pulse beat about the rate of the adult pulse, as there were of those in whom it beat with greater rapidity. These infants presented no symptoms of disease. This is exactly in accordance with our own experience, and we are therefore convinced of the inaccuracy of the often repeated, but probably seldom duly considered assertion, that the pulse of young children is more frequent than in adults. This rule has so many exceptions as almost to destroy its practical importance.

Part II.—*Diseases of Infants.*—M. Billard considers in succession the affections of the skin, cellular tissue, digestive, respiratory, cerebro-spinal apparatuses, and lastly the loco-motive system, and that of generation.

Our author's comments on affections of the skin are upon the whole meagre and unsatisfactory. Measles, for example, is dismissed in something less than two pages, and scarlatina is treated upon with the same brevity. We were astonished at the first remark upon the latter disease, that "scarlatina is always accompanied with violent fever;" but we find M. Billard afterwards admits that in the simple form the febrile action is very slight. Out of 800 children, M. B. has seen but one instance of herpes zoster in infants at the breast. During thirty years' practice we have never seen or heard of a single instance of this disease in young infants. M. Billard has very carefully investigated a form of disease in infants concerning the pathology of which there has been and still is, much diversity of opinion, namely, "induration of the cellular tissue of new born children." He concludes that this disease has been inaccurately named and described. Passing over the account of the various opinions that have been given of the causes of this disease, we shall give the result of M. Billard's experience from 240 cases: 1st, the induration of the cellular tissue in young

infants is nothing more than simple œdema, analogous to the œdema of adults. It may be either local or general. It should always be distinguished from induration of the adipose tissue; 2d, it is more common in winter than summer, and more frequent in young infants than in those of more advanced age. The predisposing causes are, 1st, natural feebleness of the child; 2d, general and congenital plethora; 3d, a superabundance of venous blood in the tissues; 4th, a dry state of the skin before the exfoliation of the epidermis. The immediate causes are; 1st, an obstruction in the course of the blood; 2d, an engorgement in the cellular tissue, to which it furnishes too much materials for secretion; 3d, the action of external agents on the skin, which without condensing the serous fluid, as has been asserted, are yet capable of sùspending the cutaneous transpiration, and thus favour the accumulation of serosity in the cellular tissue. The sanguineous engorgement of the liver, lungs, and heart, the persistence or closure of the fœtal openings, are not the indispensable and exclusive causes of this affection; they ought not to be considered as concomitant phenomena, and as accessory circumstances to a disease which may exist without them. When the œdema is general, and the congestion is carried to a high degree, all parts where there exists cellular tissue undergo a disturbance in the functions which they discharge. Thus the glottis becoming œdematous at the same time that the lungs are the seat of the congestion, the cry of the child is generally painful, acute, and smothered. The slowness of the circulation easily explains the coldness of the limbs and the state of debility into which the patient falls. In this manner may be easily explained all the symptoms described by authors. The therapeutic indications thus pointed out, are, first, to relieve, by suitable evacuations, the general plethora; secondly, to excite the skin by irritating frictions, by the use of woollen garments next the skin, and the adoption of all proper means to establish cutaneous transpiration. The great mortality at the Hospice des Enfans Trouvés has long been attributed to induration of the cellular tissue. This M. Billard believes is incorrect. There often exist, at the same time, affections of the brain, lungs, and intestinal canal, much more serious than œdema, and much more fatal to children. When œdema is local, or if it be general and yet not severe, it is not to be regarded as a fatal disease; nor will it become so, unless complicated with some affection seated on an organ essential to life.

Diseases of the Digestive Apparatus.—Meckel's division of the alimentary canal is adopted, and M. Billard first gives the form and aspect which the various portions present in a state of health, both during intra-uterine life and after birth. A brief account is given of the more frequent malformations of these parts. In cases of division of the palatine arch and velum, the practitioner will remember with advantage the excellent advice of Roux. A child born with a bifid velum, and at the same time with the arch of the palate and the lips perfectly formed, can without difficulty take the breast. But as it cannot empty the mouth, it sucks badly if kept in a horizontal posture. It swallows also with difficulty. M. Roux advises the child to be placed in a vertical position when it is about to suck, and to assist the mechanism of sucking by gently pressing the breast. If there is a large communication between the mouth and the nasal fossæ, the child should be fed with a spoon. A child was taken to M. Roux that had not been able to suck for eight days. It was almost exhausted. M. Roux caused the child to be held out, and in this position gave it a little sugared water. In this manner it drank a glassful. From this time it was artificially fed by taking the same precautions, and was soon relieved from the state of wasting into which it had fallen *. M. Billard describes the following varieties of stomatitis:—the erythematic, with altered secretion (muguet), follicular (aphthæ), ulcerous, and gangrenous. The distinctions here admitted, between the different inflammatory affections of the parietes of the mouth, may appear fanciful; but they are not so, as we have often had opportunities of verifying in our own practice. By many authors, muguet, or stomatitis with altered secretion, has been confounded with aphthæ: the characteristic differences of the two forms of disease have been described by Breschet, Guersent, Veron,

* Mémoire sur la Staphyloraphie. Paris, 1835.

and Lélut. M. Billard does not entirely accord with their views. Stomatitis is characterized by a concretion of mucus on the surface of inflamed mucous membranes, whether the membrane be an epithelium or not. This concretion may be observed in the mouth, œsophagus, stomach, and small or large intestines. It appears under three different forms:—1st, as very small white points upon the tongue and parietes of the mouth; 2dly, as variously sized shreds; 3dly, as a membrane entirely covering the tongue or spread over the other parts of the cavity of the mouth. "This excretion, under whatever form it may appear, is usually preceded by an erythematic inflammation of the surface of the tongue or of the parietes of the mouth."—"It overspreads the membrane, like mucus; of which, indeed, the muguet is but a morbid concretion." In the next sentence, M. Billard states that this first degree of the disease is "always" preceded by inflammation of the mouth. We doubt whether any appreciable inflammation even "usually" precedes the formation of this morbid concretion in this infantile disease. We have, at least, seen several well-marked instances of it, in which we could not detect any inflammation, and we are not inclined to admit the previous existence of inflammation, either in adults or children, merely because something like a false membrane is formed. And we may just observe, although it may not be quite pertinent to the subject, that we have yet much to learn respecting the formation of false membranes. Even the term is very differently employed by different pathologists; and the point is by no means settled, whether a false membrane, properly so called, is or is not the necessary product of inflammation. We may safely say that practitioners in general regard every disease as inflammatory, in which false membranes are formed; and we are mistaken if the practice founded upon this belief is not very often injurious. M. Billard describes, at some length, the varieties and ordinary course of "muguet." It is most common in early infancy. He does not think it is contagious, but it often occurs simultaneously in many infants who are fed upon unwholesome food, and crowded together in bad air. When the disease is simple, and consists of nothing more than a few points disseminated over the surface of the tongue and lips, the application of decoction of marshmallows is said to be sufficient. If complicated with phlegmasia of the digestive organs, the treatment must be varied according to circumstances. M. Guersent advises some mucilaginous decoction, with a fourth part of the chloride of soda, as a wash for the mouth. For our own parts, we have found no reason to wish for a better remedy, in mild cases of this disease, than the well-known use of mel-rosæ and sub-borate of soda. The next subjects treated of are aphthæ and gangrene of the mucous membrane of the mouth.

[To be continued.]

The Eye: a Treatise on the Art of Preserving this Organ in a Healthy Condition, and of Improving the Sight; to which is prefixed a View of the Anatomy of the Eye; with Observations on its Expression as indicative of the Character and Emotions of the Mind. By J. Ch. August Franz, Doctor of Medicine and Surgery of the University of Leipsic, &c. London, 1839. 12mo. pp. 296. With a Plate.

The first part of this work is divided into four chapters, which are severally on the anatomy of the eye; the physiology of the eye; the importance and dignity of the eye, and its pre-eminence above the other organs of sense; and the expression of the eye as indicative of character. These are followed by an appendix containing practical observations on the expression of the eye, especially of the look.

The second part treats of the art of preserving the eye in a healthy condition, and of improving the sight; with the management of ophthalmic diseases in their incipient state.

It is divided into six chapters, which are severally on the eye in infancy, the eye in childhood, the eye in youth, the eye in manhood, in old age, and on general regimen with reference to the eye.

Dr. Franz's work shews good sense and German industry, and will be consulted not only by the public, but by hygienic writers.

MEDICAL GAZETTE.

Friday, December 27, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

LONDON CEMETERIES.

In our late article on burial in cities, we mentioned several cases where the noxious vapours arising from the dead had acted like a poison upon the living. Mr. Walker, to whose work* we were indebted for these instances, gives others which, if not more striking in themselves, are more likely to arrest attention, from their having happened in the very city in which we write. A catastrophe occurring in London will, of course, alarm the dullest Londoner, who might scarcely be awakened from his lethargy by a catastrophe at Montpelier.

Dr. Macartney observes, in his work on Inflammation, that "the two stages of decomposition in the dead body which render the animal substance most dangerous, are, that which takes place immediately after death, and the extreme degree of putrefaction."

The remark is a just one; and both its clauses have too frequently been illustrated by the culpable carelessness which prevails in all that relates to the interment of the dead. Thus in 1825, a woman who had died of typhus fever in White Horse Yard, Drury Lane, was brought down a narrow staircase, and the coffin was placed for a few minutes in the door-way of another lodger's room. The lodger was immediately sensible of a most disgusting odour which escaped from the coffin, and was soon seized with typhus in a severe form, from which, however, he recovered. In another instance a stout muscular man died after a short illness; and on bringing the body down stairs, a large quantity of fetid sanies flowed from the coffin. Mr. M., a patient of Mr. Walker's, was instantly seized with giddiness, prostration of strength, and extreme lassitude.

These cases, indeed, do not directly illustrate the pernicious effects of burying in cities, as they might both have occurred had the bodies been about to be placed in some suburban cemetery; but indirectly they throw light upon the subject, by exposing that destructive recklessness concerning the influence of the dead upon the living, which allows coffins to become leaky reservoirs of poisonous gas, and makes of our London burial-grounds huge Stygian caves, breathing disease and death over the metropolis.

Examples shewing the effects of extreme decomposition, are common enough; for grave-diggers, when digging into the soil of our crowded churchyards, often break through coffins with their spades, and give vent to the mephitic vapours. In some cases, too, the grave-diggers have been employed to obtain some of the gas from a coffin, and have been overpowered by the experiments. On one occasion, Mr. J. H. Sutton, a medical student, entered the vaults of a church with one of these persons, and "a coffin, 'cruelly bloated,' as one of the grave-diggers expressed it, was chosen for the purpose of obtaining a portion of its gaseous contents. The body, placed upon the top of an immense number of others, had, by the date of the inscription on the plate, been buried upwards of eight years. The instant the small instrument employed entered the coffin, a most horridly offensive gas issued forth in large quantities. Mr. S. (who unfortunately respired a portion of this vapour) would have fallen, but for the support afforded by a pillar in the vault: he was instantly seized with a suffocating diffi-

* Gatherings from Grave Yards, particularly those of London, &c.

culty of breathing (as though he had respired an atmosphere impregnated with sulphur); he had giddiness, extreme trembling, and prostration of strength; in attempting to leave the vault he fell," &c. The man who accompanied him had similar symptoms, but in a less degree; in fact, they were both poisoned with sulphuretted hydrogen gas.

On another occasion, a robust man of 29, while digging a grave in the Savoy, struck his spade into a coffin, and, being poisoned by the exhalations proceeding from it, was attacked with head-ache, extreme debility, lachrymation, violent palpitation, universal trembling, and vomiting. Even his wife was affected with headache and trembling, from the smell given forth by his clothes. The man (Jackson by name) recovered in a few days, but being compelled to return to his employment, he attempted to dig a grave in Russell Court, Drury-Lane. This is one of the burying-grounds which have been "long saturated with dead," so that it is impossible to select a grave without disturbing some previous tenant. Jackson again struck his spade into a coffin, fell down powerless, and died in thirty-six hours. As this case occurred while the spasmodic cholera was raging, his death was attributed to that disease; and it appears to us sufficiently probable that so depressing a blast of gas might be the immediate predisposing cause of an attack of the Asiatic malady, when the air of London was already pregnant with its germs. But Enon Chapel appears to have attained the bad eminence of possessing the worst of all the wretched burial-grounds in London. This building is situated on the western side of St. Clement's-lane; and the upper part being used as a chapel, the lower, separated from it by a boarded floor, contains thousands of corpses, not one of which has been placed in lead. Insects have been seen to crawl out of the coffins; one sort was a long, narrow black fly, the other like a common bug, with wings. "The children attending the Sunday-school, held in this chapel, in which these insects were to be seen crawling and flying, in vast numbers, during the summer months, called them 'body bugs,' —the stench was frequently intolerable; one of my informants states, that he had a peculiar taste in his mouth during the time of worship, and that his handkerchief was so offensive, that immediately upon his return home, his wife used to place it in water."

Singularly enough, handbills were circulated in the neighbourhood some months since, requesting parents to send their children to the Sunday-school over the chapel, or, as they would say, in the Palace of Truth,—requesting parents to send their children to inhale the rank steam from a mass of putrefying corpses placed just under their feet. In the vault, or rather cellar, under the chapel, all decency is set at nought; bones are seen mingled with the earth, and lids of coffins, says Mr. Walker, might be trodden upon at almost every step.

No one will be surprised at the effect of this chapel on those who frequent it, or who attend funerals there. Mr. Tumbleton, an undertaker, on attending a funeral at Enon chapel, perceived a disgusting stench, and within forty hours was seized with a malignant typhus, which confined him to his bed for nine weeks.

A housekeeper, named Adams, who frequented the chapel, died of typhus fever, under Mr. Walker's care. The disease was accompanied with symptoms of extreme putrescency, and it is

reasonable to suppose that it was caused by the Golgotha to which he had so often been exposed.

After this cavern, all other churchyards in London, however noisome, might appear neat and harmless by comparison. The vault at Enon chapel might serve as a foil to set off the burying ground in Portugal-street, otherwise called the Green Ground: yet the Green Ground is bad enough, in all conscience. This place is thoroughly filled with corpses, and its soil absolutely saturated with the results of decomposition; so that to find room for the new tenants of the dormitory, the sextons remove baskets-full of bones, and tear up pieces of coffin-wood. Whether the coffins have decayed or not, matters little, as space must be obtained. The effluvium from this ground at certain periods compels the neighbours to close their windows; the rank steam is seen in a condensed form on the walls, and fever reigns in triumph over the vicinity. As the workhouse at the north-eastern extremity of this Avernus has been converted into a hospital for King's College, it is to be hoped that its authorities will see the necessity of putting an immediate stop to this horrid source of infection.

At St. Clement's Church, in the Strand, "the Rector's Vault" is full of gases which instantly extinguish a candle. Hence it is necessary to open the vault for two or three days, and let out the putrid vapours into the street, before the sexton can venture to go into it! There was formerly a pump close to this church, the water of which had become too offensive to be used; but this has, fortunately, been removed.

It is needless to proceed farther, and catalogue all the horrors of our London churchyards; the violation of the repose of the dead, and the reckless diffusion of poison among the living, are their common characteristics. Among those pointed out by Mr. Walker to public attention, and, we hope it may prove, to public indignation, are the following ones: Drury Lane Burying Ground; the one in Russell Court, Drury Lane; St. Paul's, Covent Garden; St. Giles's; and Aldgate, where two grave-diggers were killed by the exhalations, in September 1838.

The burying-grounds of Whitechapel Church; the Catholic chapel in Moorfields; Spitalfields Church; Bethnal Green; Stepney; Mulberry Chapel, Well-Street, St. George's in the East; the Swedish Protestant chapel in Princess-Square; St. George's Church, Cannon-Street East; and Ebenezer Chapel, Ratcliff Highway, are all eminently unwholesome, polluting the air far and wide with their pestilential emanations. Two dozen more are given by Mr. Walker, but we think it unnecessary to quote more names.

A remarkable fact, showing the indifference of the community on this important topic, is that Enon Chapel is not the only place where children are actually taught in a room built over the mouldering remnants of humanity! Yet, perhaps, this is only a degree worse than the common custom of allowing bodies to be deposited in vaults immediately under our churches; for though it is ignorantly supposed that the deadly vapours will not break through the cerements of a leaden coffin, in reality they do, and taint the air of the temple above them.

When Parliament finds leisure to attend to the public health, the remedy for these evils will be as easy as it is obvious. Let burial in towns be prohibited; but, lest the cupidity of the proprietors of the present suburban cemeteries should press too hard upon the

relatives of the dead, let land be purchased by corporations in suitable situations, and the right of interment be sold at an equitable price.

VACANT CHAIRS AT KING'S COLLEGE.

It appears that new Professors of Medicine and Surgery are required at King's College, two of the most important and best filled chairs having become vacant. Dr. Watson and Mr. Arnott have either resigned or been made to resign; and this most unfortunate event for the College is, it is rumoured, in some way connected with the establishment of the new hospital. But these gentlemen were not opposed to this scheme (as we gathered from Mr. Arnott's introductory lecture); and, of course, no one could have expected them to give up the Middlesex for an hospital whose very existence was problematical; so that we are quite at a loss to conceive how the new institution should have led to the event, and yet, as Horatio says—

"Indeed, my Lord, it followed hard upon."

There is something more in this than meets the eye; but as this is Christmas week, editors and printers are too busy, or too idle, with other matters to search out the heart of the mystery, and the *denouement* we therefore keep—till another year.

MEDICAL VALETS.

The *Zeitschrift für die gesammte Medicin*, for last September, has some sensible observations on the subject of medical servants, which we discussed in our article of June 1. We have repeatedly directed the attention of the host who now study medicine, says our contemporary of Hamburgh, to the melancholy prospects which open upon those, in particular, who are destitute of capital. He then goes on to say, that though hostile to every monopoly, and unfavourable to the measures adopted by many governments to make the course of study difficult and impossible, he thinks it right to point out to parents and guardians, as well as students themselves, a piece of intelligence from London; a city, which on the Continent is dreamed of as an Eldorado for medical practitioners. And then follows the never-to-be-forgotten advertisement from the "Times," in which a member of the medical profession offers to officiate as a valet. We are accustomed, says the German commentator, to read, in our newspaper advertisements, of servants who can speak French and English, can curry horses, and dress hair, nay more who will undertake to attend on the sick; but to treat disease is not yet required of a German lacquey. In Russia, indeed, the nobles bring up the sons of their slaves to any employment they please, making one a smith, a second a wheelwright, a third a musical performer, and a fourth a doctor. They are sent to some town for a short time to be instructed, and must then shoe horses, make ploughs, blow horns, or treat diseases, at their master's pleasure; but that a free-born physician should offer himself as a servant is horrible and unheard of. Thank God, continues our contemporary, as yet we have heard of nothing of the kind in Germany; but is not every extremity to be apprehended, if the number of practitioners continues to increase in so great a disproportion to the population? For *il faut diner*.

This German commentary on the English advertisement is interesting; not only as giving the opinion of an intelligent foreigner on one of our social anomalies, but because it shows that Germany is on the brink of the same danger.

ATTENDANCE ON THE POOR.

To the Editor of the Medical Gazette.

Sir,

I beg the favour of your inserting in your next number the enclosed copy of a petition to parliament, which has just been adopted by the Medical Society of Gloucester, and signed by almost all the resident practitioners.

The letter of Mr. Sergeant Talfourd, published a short time since in the MEDICAL GAZETTE, accompanied by a general appeal to the profession from the Council of the Provincial Medical and Surgical Association, will, I hope, have the effect of inducing our brethren in other places to send similar petitions. Your excellent leading article of Nov. 8 will also tend to the same result.

The length of this petition may appear to some objectionable, but our reasons for entering so far into details were these, 1st, after the many protracted discussions on this subject, which have found their way either into the medical journals or into the transactions of associations, and the vast amount of valuable information which has been obtained, especially by the late Parliamentary Committee, it might reasonably be expected that we should be prepared to state the full extent of our acquirements, particularly as to the amount of remuneration. 2nd. No one had before shewn how the maximum and minimum rate (recommended by Sergeant Talfourd and others) might be adapted to districts of different extent, without infringing the principle of the regulation proposed in June last, by the Poor Law Commissioners. We have endeavoured to supply this desideratum in the present petition.

The qualification clause has proved the most difficult to determine. Without specifying the bodies, corporate or collegiate, who might confer the preliminary qualifications, we thought it sufficient to require a practical examination in all the branches of the art.

It was originally intended that the latter part of this clause should read as follows (after the word "office"): "by having practised for three years, after passing examination in medicine, surgery, and midwifery; or unless he were engaged in practice before the enactment of the new Poor Law." Thus not only proposing as a future qualification a certain term for the practical application of professional studies, but also disqualifying some very unfit persons, who have been admitted into these situations since the passing of the Poor Law Amendment Act. However, this was strongly objected to by a highly respectable member of the society, and the majority gave way.

I feel, nevertheless, bound to recommend the insertion in other petitions of the original cause, at all events, the qualification of three years' practice, possessing, as I do, unquestionable evidence of most lamentable consequences (to the health and lives of paupers), from the appointment to extensive districts of young men, who had only just obtained their license from Blackfriars.

We have not yet decided to whom to entrust this petition, and another for the House of Lords, but it is our intention to ask for the support of the county and city members, as well as other M.P.s within reach.

If similar applications be made extensively the profession will secure decent attention to their cause in the House.

Facts illustrating the ill-working of the present system, since the Report of the Parliamentary Committee last year, should be transmitted to Mr. Sergeant Talfourd without delay.—I am, Sir,

Your obedient servant,

H. W. RUMSEY.

Gloucester, Dec. 16, 1839.

P.S—Since the petition was drawn up, I have been informed that the following scale of limitation to the size of Medical Districts would be better adapted to the varying circumstances of Unions, than that proposed in the Petition:—No district to exceed sixteen square miles in area; nor, if containing more than 4000 inhabitants, to exceed nine square miles; nor if containing more than 5000 inhabitants, to exceed four square miles; nor if containing from 7000 to 10,000 inhabitants, to exceed one square mile. The scale of remuneration to be altered accordingly, the *minimum* rate per case, on which the fixed salary is calculated, being 8s., 7s., 6s, and 5s., in the four classes of districts respectively.

To the Honourable the Commons, &c. &c.

The humble petition of the Medical and Surgical Practitioners of the City of Gloucester,

Sheweth,

That your petitioners have long observed with deep concern and regret, the imperfect legal provision of medical attendance for the poor; and though fully aware that great defects in the administration of this branch of relief existed before the passing of the Poor Law Amendment Act, and in some particulars an improvement has been effected by the Poor Law Commissioners, they are nevertheless firmly convinced that the serious evils which still exist, some originating in the former system, others produced or aggravated by the present, can only be effectually removed by the intervention of the legislature.

Your petitioners therefore pray that your honourable House will be pleased to take into consideration the measures which they now humbly propose, and which are in accordance with the unanimous testi-

mony of the medical witnesses examined in 1838, by a Committee of your honourable House.

1st, That a physician or surgeon, of not less than five years standing, and practically conversant with the wants, habits, and diseases of the poor, in rural as well as in the urban population of this country, may be appointed, (under an act of parliament), as an additional commissioner, to act in concurrence with the Poor Law Commissioners, in the decision of all questions relating to the medical relief of the poor.

2ndly, That certain limits to the extent and population of medical districts be determined by parliament.

And your petitioners beg leave to suggest, that no district should be permitted to exceed sixteen square miles in area; nor, if it contain more than 4,000 inhabitants, should it exceed four square miles in area; nor if it contain more than 6,000 or 7,000 inhabitants, should it exceed one square mile in area; nor should any district be permitted to contain more than 10,000 inhabitants.

That no medical officer be allowed to appoint a substitute or deputy for any portion of his district, except under temporary inability from ill health, or other sufficient cause, and in the event of such inability, the substitute should possess the full qualification required of medical officers of Unions, and be approved by the Board of Guardians.

3rdly, That a *maximum* and *minimum* rate of payment to the medical attendants of districts be established by law; thus protecting, on one hand, the rate-payers, and on the other, the medical profession; thus also allowing the Board of Guardians of each Union to determine the exact rate of remuneration within the prescribed limits, according to the custom and peculiar circumstances of the locality, and subject to the final decision of the Poor Law Commissioners in case of dispute.

Your petitioners observed, with much gratification, the improved spirit of a minute of the Poor Law Commissioners, dated June 6th, 1839, in which it is proposed:

"That at the commencement of every parochial year, a list of all the paupers in the receipt of relief within a district should be made out, and that, for the medical care of these paupers, a fixed sum to be then determined, should be paid, which should be apportioned to the several parishes of the district, according to the number of paupers on the list belonging to such parishes respectively, and that the medical officer should attend these paupers when sick, without any specific order from the Union or Parish Officers."

"That the (said) fixed sum (or salary) should be such as to afford a payment of 6s. or 6s. 6d. per case on the average number of *bonâ fide* cases, subject to be augmented if the districts be extensive."

In order to apply the principle of a maximum and minimum rate to the foregoing proposition of the Poor Law Commissioners, your petitioners believe that in districts not exceeding one square mile in area the minimum rate per case as regards the "Pauper List" should be about 5s., and the maximum about 6s. 6d. That in districts not exceeding four square miles in area the minimum rate should be about 6s. 6d.; the maximum about 8s. That in districts not exceeding sixteen square miles in area the minimum should be about 8s., the maximum about 10s.

The Poor Law Commissioners further state in the said Minute, "that as respects all other persons (not on the Pauper List) to whom medical relief shall be ordered during the current parochial year, the medical officers shall receive a fixed sum per case," ..... which (the Commissioners admit) "may reasonably be on somewhat a higher scale;" and your petitioners believe that a minimum rate of 8s. and a maximum of 12s. would meet these cases under the various circumstances before specified.

Your petitioners also fully concur with the Poor Law Commissioners in the opinion "that surgical operations of a serious character should be paid for by a separate fixed charge for each case."

Your petitioners also beg to represent the importance of permitting every medical officer (on his responsibility to the Medical Commissioner) to call in a consulting practitioner in cases of difficulty and danger, due provision being made for his remuneration.

And further, the urgent necessity for providing (by law) additional medical attendance in the event of epidemics seriously and extensively prevailing.

4thly. With respect to the qualification of medical officers—That no one be eligible to a future appointment, unless he shall have proved his competency to execute the multifarious duties, and to meet the important emergencies of the office, by having passed examinations in medicine, surgery, and midwifery. Or unless he be at the present time legally qualified to practice his profession.

Your petitioners firmly believe that the preceding propositions are well calculated to secure an efficient superintendence of the medical department of the poor law, and an adequate supply of medical attendance and medicines, to the sick poor.

And your petitioners will ever pray.

NORTH OF ENGLAND MEDICAL ASSOCIATION.

A MEETING of the Physicians and Surgeons of the Northern counties of England (convened by a requisition bearing 100 signatures) was held at Newcastle-upon-Tyne, on Thursday, 14th November, "to consider the steps proper to be taken, with a view to obtain from Parliament such legislative measures, in reference to the Medical Profession, as are best calculated to protect the interests of its members, and to promote the public welfare." Dr. Headlam (the senior physician of the town) having been called to the chair, and Mr. C. T. Carter requested to act as Secretary, a number of resolutions were proposed, and *unanimosly* adopted; the principal object of which related to the establishment of a "North of England Medical Association." The government of the society is to be vested in a President, eight Vice-Presidents, a Treasurer, a Secretary, and a Council, all of whom are to be chosen annually, by *open vote;* proxies being allowed for members residing more than fifteen miles from the place of meeting. Any gentleman is to be eligible as a member who possesses a physician or surgeon's diploma, or a license of the Society of Apothecaries, London, or who shall have been in practice previously to the year 1815. The subscription is 1l. per annum. There are to be two regular meetings in each year, held at such times and places as the Council shall determine, and a *special* meeting may at any time be called, either by the Council, or by the Secretary, in compliance with a requisition addressed to him, and signed by at least twenty members. A provisional Committee has been appointed to arrange the preliminary proceedings of the first general meeting, which is to be held in January, and to prepare, for the consideration of that meeting, a report on the present state of the Medical Profession, and petitions (in connection therewith) to both Houses of Parliament. Notwithstanding an extremely unfavourable state of the weather, about 150 gentlemen attended the meeting, some from distant parts of Northumberland, Cumberland, and Durham; and the proceedings were characterised by the greatest harmony and unanimity.

SECONDARY FISTULÆ OF THE PLEURA

IN CASES OF EMPYEMA AND PNEUMO-THORAX.

DR. STOKES exhibited a drawing illustrative of this pathological condition, which had, he believed, been first described by Dr. Houghton in his article on Pneumo-Thorax, in the Cyclopædia of Practical Medicine. In the case then under consideration, the pleura presented the following appearances. The original fistula from within outwards, communicating with the cavity in the lung, was evident. But in addition to this opening, were several others, which had formed from without inwards; these presented oval patches, shewing perforation of the serous membrane and subjacent structures, at the base of which were several circular openings, communicating with minute bronchial tubes, but not without any distinct tuberculous abscess. This condition seemed to require a very considerable duration of disease for its production; and Dr. Stokes was of opinion that these secondary fistulæ would account for some of the peculiarities in the physical signs of chronic empyema and pneumo-thorax.

ANEURISM OF THE AORTA

WITH AND WITHOUT BRUIT DE SOUFFLET.

DR. CORRIGAN said that he exhibited these specimens together, because they agreed with one another in their pathological characters, with one single but most important exception. Both were examples of aneurisms of the ascending aorta; one of them had been taken from the body of a woman named Hamilton, the other from the body of a man named Dunn. They agreed in their size, situation, pathology, and even in their diagnostic signs, with this exception, that in the case of Dunn the bruit de soufflet was never absent, while in that of Hamilton it was present. In the case of Dunn the aneurism involved the mouth of the aorta; in the case of Hamilton it did not, there being a portion of the vessel, about an inch and a half from its mouth, perfectly free from disease. In Dunn's case, too, the heart was very large; in Hamilton it was below the natural size. In Hamilton's case the valves and the commencement of the aorta being sound, and the action of the heart weak, there was no vibratory motion communicated to the parietes to give rise to bruit de soufflet; but in Dunn's case there was a flaccid state of the heart, with disease of the aortic valves. Dr. Corrigan thought that, as a general rule, bruit de soufflet would be found in all cases where the aortic valves were diseased, and that it would be be absent where they were sound.—*Dublin Journal of Med. Science.*

MONTHLY LIST

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, Dec. 24, 1839.)

	Price.		Duty.		Duty Paid.	
					In 1839 to last week	Same time last year.
	£ s. d.	£ s. d.		s. d.		
Aloes, Barbadoes, D.P. c	15 0 0	to 30 0 0				
Hepatic (dry) BD..... c	5 0 0	10 0 0	B P. lb	0 2	126,465	98,329
Cape, BD. c	3 10 0	3 14 0	F. lb	0 8		
Anise, Oil of, German, D.P.....lb	——	——	F. lb	1 4	——	133
E. I. .....lb	0 5 0	0 5 6	E. I.	1 4	1,544	2,299
Asafœtida, B.D. c	1 10 0	3 10 0	c	6 0	24	60
Balsam, Canada, D.P. .....lb	0 1 0	0 1 1	lb	0 1	13,636	7,259
Copaiba, BD.....lb	0 2 6	0 3 0	c	4 0	630	275
Peru, BD. .....lb	0 4 6	——	lb	1 0	825	1,798
Benzoin (best) BD..... c	25 0 0	50 0 0	c	4 0	108	115
Camphor, unrefined, BD..... c	13 10 0	——	c	1 0	442	651
Cantharides, D.P. .....lb	0 3 6	0 4 0	lb	1 0	16,376	15,575
Caraway, Oil of, D.P. .....lb	0 8 0	0 8 6	lb	4 0	987	1,298
Cascarilla or Eleutheria Bark, D.P.c.	3 10 0	——	lb	0 1	5,983	4,579
Cassia, Oil of, BD.....lb	0 7 0	——	lb	1 4	2,988	4,342
Castor Oil, East India, BD.....lb	0 0 4	0 0 10	c	1 3	6,447	5,431
West I. (bottle) D.P. 1½lb	——	——				
Castoreum, American .....lb	0 17 0	0 18 0	lb	0 6	801	891
D.P. Hudson's Bay .....lb	0 18 0	1 0 0				
Russian.....lb	none					
Catechu, BD. Pale c	1 1 0	——	c	1 0	48,184	37,201
Dark	1 7 0	——				
Cinchona Bark, Pale (Crown)....lb	0 2 0	0 3 6				
BD. Red .....lb	0 2 0	0 4 0	lb	0 1	50,548	108,502
Yellow .....lb	0 4 0	0 4 4				
Colocynth, Turkey .....lb	0 1 6	0 2 9	lb	0 2	10,417	15,715
D.P. Mogadore .....lb	0 1 0	——				
Calumba Root, BD. c	0 12 0	1 15 0	lb	0 2	9,384	19,805
Cubebs, BD. c	2 10 0	——	lb	0 6	39,108	29,487
Gamboge, BD. c	5 0 0	15 0 0	c	4 0	68	96
Gentian, D.P. c	1 6 0	1 8 0	c	4 0	454	511
Guaiacum, D.P.....lb	0 1 0	0 3 0	c	6 2	15	40
Gum Arabic, Turkey, fine, D.P... c	11 0 0	——				
Do. seconds, D.P. .. c	7 10 0	——	c	6 0	7,652	9,495
Barbary, brown, BD. c	1 17 0	1 18 0				
Do. white, D.P..... c	5 10 0	——				
E. I. fine yellow, BD. c	2 5 0	2 14 0	c	6 0	7,668	6,745
Do. dark brown, B.D. c	1 15 0	2 5 0				
—— Senegal garblings, D.P. c	3 6 0	——	c	6 0	21,660	23,824
—— Tragacanth, D.P. c	8 0 0	12 0 0	c	6 0	87	455
Iceland Moss (Lichen), D.P. ....lb	0 0 2½	0 0 3	lb	0 1	15,933	5,179
Ipecacuanha Root, B.D. .....lb	0 1 6	——	lb	1 0	7,453	12,426
Jalap, BD. .....lb	0 2 2	——	lb	0 6	37,211	42,464
Manna, flaky, BD. .....lb	0 3 6	0 4 0	lb	0 3	13,493	13,450
Sicilian, BD. .....lb	——	——				
Musk, China, BD. .....oz	1 0 0	2 0 0	oz	6 0	2,369	2,274
Myrrh, East India, BD. c	5 0 0	14 0 0	c	6 0	216	176
Turkey, BD..... c	2 0 0	11 10 0				
Nux Vomica, BD.....lb	0 8 0	0 9 0	lb	2 6	478	1,017
Opium, Turkey, BD. .....lb	0 10 0	——	lb	1 0	39,379	30,407
Peppermint, Oil of, F. BD.....lb	0 15 0	——	lb	4 0	2,510	990
Quicksilver, BD. .....lb	0 3 10	——	lb	0 1	331,626	392,137
Rhubarb, East India, BD.....lb	0 3 0	0 6 0	lb	1 0	22,575	36,536
Dutch, trimmed, D.P. lb	0 4 0	0 8 0	F. lb	1 0	12,248	7,052
Russian, BD. .....lb	——	——				
Saffron, French, BD. .....lb	0 17 6	0 17 6	lb	1 0	4,416	5,296
Spanish .....lb	0 16 0	0 17 6				
Sarsaparilla, Honduras, BD.....lb	0 1 0	0 1 9	lb	0 6	116,921	118,987
Lisbon, BD. .....lb	0 2 0	——				
Scammony, Smyrna, D.P.....lb	——	——	lb	2 6	8,365	7,128
Aleppo .....lb	0 18 0	1 0 0				
Senna, East India, BD. .....lb	0 0 3	0 0 4	E.I. lb	0 6	108,743	71,410
Alexandria, D.P.....lb	0 1 6	0 1 8	Other sorts	0 6	63,766	67,847
Smyrna, D.P. .....lb	0 1 0	0 1 3				
Tripoli, D.P. .....lb	0 1 0	0 1 3				

‡§‡ BD. In Bond.—c. Cwt.—B. P. British Possessions.—F. Foreign.—D. P. Duty paid.

PRESERVATION OF SUBJECTS.

To the Editor of the Medical Gazette.

Sir,

In the Guy's Hospital Reports for last October, there is an account of experiments conducted by Dr. Babington and Dr. Rees, on various substances for the preservation of subjects for anatomical purposes. To a certain extent their experiments appear to have been followed by good results, but not all the good that could be wished; inasmuch as in their last specimen the brain was "soft and semi putrid, and unfit for demonstration." One great objection to the use of their preparation would seem to arise from the disagreeable and oppressive odour of the pyroxylic spirit, the substance used, making it questionable whether that or the odour arising from putridity was the most objectionable.

For some length of time, myself and others have been using a liquid thoroughly well adapted to every anatomical purpose, which restores the appearance and condition of the body after decomposition has ensued, rendering it fit for immediate dissection, or preserving it for an indefinite period. It is perfectly free from smell, and is quite innocuous. I shall be very happy to supply gratuitously a sufficient quantity to any gentleman to enable him to make trial of this liquid, and shall have great pleasure in showing my specimens to all who will honour me with a call.

I am, sir,
Your obedient servant,
George Smith.

John Street, Oxford Street,
Dec. 4, 1839.

[This letter was received soon after the date it bears, and was accidentally omitted.—Ed. Gaz.]

ŒDEMA OF THE LARYNX.

Mr. Adams also exhibited a specimen of œdema of the larynx, taken from the body of a man, who for twelve months previous to his death had suffered from œdema of the lower extremities; about a week since, the scrotum and the penis became œdematous, the eyelids began to swell, and he got symptoms of effusion into the chest. The day before his death, he was attacked with swelling of his neck, which became quite cylindrical, and respiration was greatly impeded. On the following morning, while endeavouring to swallow his breakfast, he fell back suddenly and expired. The cause of sudden death was found to be seated in the larynx; the submucous tissue about the glottis was distended with a yellowish serous effusion. It afforded a good specimen of the serous effusion of Bayle.—*Dublin Journal.*

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Dec. 5.

Edward Howard, Tenderden, Kent.—Charles Evans, Derby.—Edward Tomlinson, Nantwich.—James Blackburn, Lyme Regis, Norfolk.—Wm. Larkins Pascall, London.—William Maddock Bush, Clifton.—George Young Hood, Newcastle-on-Tyne.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Dec.* 24, 1839.

Abscess	2	Hæmorrhage	1
Age and Debility	25	Heart, diseased	1
Apoplexy	2	Hooping Cough	2
Asthma	8	Inflammation	8
Consumption	22	Bowels & Stomach	3
Convulsions	14	Brain	5
Croup	1	Lungs and Pleura	2
Dentition	3	Measles	3
Dropsy	3	Paralysis	3
Dropsy in the Brain	1	Small-pox	1
Epilepsy	1	Unknown Causes	36
Fever	6		
Fever, Scarlet	7	Casualties	6

Decrease of Burials, as compared with the preceding week . . . 172

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Dec.	Thermometer.		Barometer.	
Thursday . 12	from 40	to 46	29·24	to 29·11
Friday . . 13	35	46	29·18	29·22
Saturday . 14	41	46	29·20	29·45
Sunday . . 15	33	43	29·48	29·37
Monday . . 16	38	42	29 53	29·95
Tuesday . . 17	32	41	29 96	29 77
Wednesday 18	31	41	29·48	29·34

Prevailing winds, S.W. and N.E.

Except the afternoons and evenings of the 14th and 17th, cloudy, with frequent showers of rain.

Rain fallen, ·5025 of an inch.

Charles Henry Adams.

DR. HUGHES ON DYSENTERY.

Owing to an oversight, Dr. Hughes' paper, published in our last number, was not revised; in consequence of which various typographical errors remained uncorrected. The reader is requested to rectify the following. Near the beginning, for "simple doses of calomel," read "scruple doses," &c.; and a little further on, "for gigantic doses," read "huge doses." Page 476, 22d line from the bottom, the clause "little feculent matter" ought to have begun a new sentence. Page 481, ʒi. and ʒvii. are printed instead of ʒi. and ʒvii.; and page 482, gr. iii. of calomel ought to have been gr. vi. Also, same page, in the prescription of the 14th, for "batrieb." read "lateribus."

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, JANUARY 3, 1840.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.

Surgeon to the St. Marylebone Infirmary.

SCROFULA.

Antiquity of the Disease — Characteristics— Various Forms—Similarity to Tubercular Phthisis—Age at which it most frequently occurs—Countries where most prevalent— Causes of the Disease—Scrofula not generally a consequence of Hereditary Transmission—Is Scrofula contagious?—Communicability of the Disease to a Child through the Milk of a Nurse—Influence of Food, Filth, and Clothing.

To undertake to fix an epoch for the first ravages caused and produced by scrofula, and to seek in the earlier periods of the world's history traces and vestiges of this formidable disease, would be to occupy oneself with objects better adapted to amuse curiosity than to further the progress of science. The history of the ills to which flesh is heir, cannot, in fact, be truly useful or interesting to the medical man, unless it instruct him upon the causes, develop the progress, mark the changes, and indicate the remedies applicable to the particular disease. Although we may trace the existence of scrofula among the earliest historical monuments—although we could shew it to have been known to the Phœnicians, the Greeks, or the Egyptians—though we find in the works of the predecessors of Hippocrates, data which are evidence of its antiquity—if the assemblage and combination of ideas, opinions, changes, disputes, and successes, do not assist us in forming a fair opinion of the disease, they bring no real advantage, and our investigations will have been useless.

That little exact information can be obtained by consulting such works in the study of this disease, appears evident when we look at the statement of Faure, made in 1752:—"It would (says he) certainly be too long, and not instructive, to consult a great number of authors who have written on scrofula, either generally or *ex professo*. It is sufficient to say that almost all modern authors, and all practitioners in the present day, admit the cause to be an inspissation of that lymph of which Thomas Bartholin discovered the vessels in 1652."

The ideas current in the days of Faure have given place to others; but our knowledge of the immediate or exciting cause of scrofola is at present little, if at all, more advanced than in his time.

Definition.—By scrofula I understand a disease characterized by the deposition in the greater portion of the tissues of the body, but principally in the lymphatic ganglia, of a product presenting the following physical characters:—If we cut into the tissue of a lymphatic ganglion affected by scrofula, it presents a tolerably dense greyish substance, interspersed through which, in masses varying in bulk, we find a product of a yellowish white colour, and very much of the consistency of new cheese. Left to themselves, in this state these tumors communicate a certain irritation to the surrounding tissues, pain is felt, the integument is thinned, ulceration takes place; at first a sero-purulent fluid is evacuated. This is succeeded by cheesy, pultaceous matter. When the whole of this matter is evacuated, the ulcer may heal.

Forms.—Scrofula is also presented in the form of cutaneous eruptions, particularly about the head. It also affects particularly certain organs. That species of ophthalmia

known as strumous is one of the most frequent, and often one of the most obstinate, of the affections of the conjunctiva. Children suffering from this disease awake in the morning with the eyelids glued together; sometimes it is very difficult to separate them; they shew great aversion to light. Sometimes the disease proceeds to disorganization of the cornea. Ulcers of a like nature in other parts of the body are frequently developed: but in those cases admitted to be scrofulous, the peculiar deposition which we have considered is usually wanting. In fact these affections are held to be scrofulous because they are commonly coexistent with glandular disease, and because they present many of the characters by which the more obvious forms of scrofula are marked. When the disease affects the articulations, the scrofulous deposition is found there, so also is it in scrofulous caries, in rickets, in the mesenteric disease termed tabes mesenterica. Therefore we are accustomed to regard these affections as scrofulous. Frequently it affects a complex fibrous tissue; for instance, the wrist-joint, the sacro-iliac symphysis. From this results that variety of the disease termed white swelling. Rarely does this end in resolution; suppuration supervenes, and caries of the articular extremities succeeds. Often the ligaments of the knee, the foot, the elbow, are the seat of scrofulous inflammation. If we examine a tumor of this kind, we see the fibrous tissues congested, the bistoury gets through it with difficulty, the areola of their tissues are enlarged; they contain a viscid, yellowish, gelatiniform fluid. Lassus compared the section of these tissues to that of a lemon. The articular cartilages, which, according to some anatomists, are inorganic, and which others regard as possessing a certain amount of organization, present traces of a similar affection. The articulations, where we find fibro-cartilages, present analogous alterations. The bones are very frequently the seat of a similar affection, especially the spongy bones. If we examine a bone which has been for some time thus affected—if we saw it, the vessels are more developed, and the cells contain a yellowish fatty matter. This condition usually proceeds to caries, or the periosteum is inflamed, detached, and necrosis is developed.

Similarity to tubercular matter.—In investigating the nature of this disease, it is necessary to inquire what similarity it bears to tubercular phthisis—what resemblance scrofulous bears to tuberculous matter. Men of great eminence have regarded these as identical products. My own opinion is, that this identity remains to be proved; that the question is yet undecided. My reasons for doubting their identity are as follow:—Scrofulous matter, when deposited in lymphatic ganglia, is infiltrated through the interstices of their tissue, like water in a sponge. A consequence of this arrangement is, that a scrofulous tumor is not completely emptied when the parietes are ulcerated, but scrofulous matter continues to be evacuated until the whole glandular structure is broken down; and it is worthy of remark, that when the cicatrization is completed, not a vestige of the diseased gland can usually be discovered. Tuberculous matter, on the contrary, except in a small, comparative, number of cases, whether deposited in the lung, the liver, the spleen, the kidney, the testicle, the brain, is not an infiltration through the tissues of the organs, but a deposition at distinct points. In all the scrofulous tumors I have examined, the softening of the scrofulous matter succeeded to a surrounding suppuration. In the case of tubercles, the softening usually precedes the phenomenon. No doubt, in both cases, the abnormal product is the focus of irritation.

Period of life.—By far the larger portion of the cases of scrofula are presented before the age of puberty. The great majority of cases of tubercular phthisis are presented after 18. Of seventeen cases of scrofula where life had been destroyed by the exhaustion attendant upon profuse discharges from ulcerated surfaces and scrofulous caries, only one presented considerable tubercular deposition in the lungs, and nine presented scarcely a trace of it. Of eighty-six cases of tubercular phthisis, only one presented any cicatrix or other evidence in the neck, the axilla, or the groin, of having suffered from disease in the lymphatic ganglia in these several regions. Louis' experience is somewhat different: of 358 cases of tubercular disease of the lung, examined by him, 30 were found to present more or less traces of the deposition of similar matter in the lymphatic ganglia. But even if we assume this to be an average, considering the frequency of both diseases, it is not too much to presume that they were simple coincidences. Again, if the perfect analogy of anatomical characters between these two products were admitted, we might say that the true nature of a disease does not solely consist in the transformation or degeneration of a tissue, but in the anatomical element which affects it—in the nature of the causes which determine it—in the mode of its transmission—the manner of its invasion—the order of succession of the symptoms which constitute it—in the effects of the treatment opposed to it.

Where prevalent.—It is also true that the countries other than our own where scro-

fula is most rife—Holland, Dauphiny, the Valais, the Vivarais, and certain portions of Brittany, present a smaller number of cases of phthisis than other countries where scrofula is more rarely seen. In the whole of the Oceanic region extending from La Teste to Mimigan, this remarkable fact obtains—the coincidence of extreme frequency of scrofula with excessive rarity of tubercular phthisis.

These are differences which I cannot reconcile: although, therefore, I do not admit absolute identity between these two products, I do not absolutely deny it; I only mention that at present it remains to be proved.

Causes.—It is said there is a scrofulous diathesis. If, by a diathesis, it be intended to convey a condition of the economy in which the constitution is simply disposed to, but as yet unaffected by, the particular disease, I do not believe in it. I think that what is usually described as a diathesis is a first symptom, or series of symptoms, of the infection of the system by a disease which will presently shew the local characters of the same affection. If this period could be well made out—if it were ascertained that during this period no local deposition of the scrofulous product had occurred—then no doubt it would be a matter of great importance to employ such means as would appear to be capable of averting the impending evil. But if this disposition could be removed, science would be very jealous of admitting as facts what no two men might be disposed to agree upon—the existence in a particular case of this particular diathesis.

In the second period no such difficulties are experienced; the disease appears with its characteristic symptoms, the organization is modified, the functions are deranged, and the disease is unmasked. The first and commonest system is the tumefaction of the lymphatic ganglia. At first they are small, moveable under the finger, elastic, without pain or change of colour in the skin. The lateral and sometimes the posterior parts of the neck are the first to feel the influence of the disease; therefore the early examination of these parts is of much importance in establishing the diagnosis. At a little later period the axillary glands may be affected; sometimes those of the groin, or of other parts of the body. Gradually they increase in size and consistency; the ambient structures are affected, and then the mobility is no longer possessed. It is rarely that a single gland is affected: usually several are almost simultaneously implicated. As they increase in bulk, they approach each other, are confounded, and often a large tumor or chain of tumors (scrophulæ concatenatæ) is the consequence. I have known such a chain to extend from the neck to the mesentery. But there is a peculiarity in these tumors, which suffices, in those persons accustomed to look at them, to distinguish them from all others: it is a certain degree of elasticity which it would be very difficult to describe. They may remain in this state for many years, but their existence is very inconstant; they will even disappear for a time. Usually, however, they make progress, become harder and less moveable, the skin over them gets red, a pain is felt towards the centre of the gland, inflammation proceeds slowly, and suppuration is established; the skin ulcerates, and a thin serous pus is discharged.

There are certain characters impressed upon those persons who are to become the subjects of the ravages of scrofula, which I shall now notice. You must, however, bear in mind, that although this be true in most cases, yet that the conjunction of all the characteristics is not always sufficient to justify us in concluding that the person is scrofulous. Commonly scrofulous children are remarkable for the size of their head—for a tendency to eruptions, or scurf on the scalp—the intellectual faculties are often greatly developed—for a tumefaction of the free borders of the eyelids—an extreme susceptibility to the impression of light. Schmucker has pointed out the length of the eyelashes as another character; a flattening of the root of the nose, an excessive volume of the lips; in some the cheek-bones are high and broad. Chaussier attached much importance to the examination of the teeth, believing that the greater number of children disposed to scrofula have bad first teeth. The neck certainly presents two opposite conditions; either it is thin and elongated, or it is short and thick, so that the head seems to be between the shoulders. Very commonly you will find in scrofulous patients a vicious conformation of the chest; the thorax is narrow, and arched in front—pigeon-breast, as it is termed; the shoulders are raised: this projection forwards of the chest renders more sensible another characteristic—the large abdomen. In the greater number of patients threatened with scrofula the digestive functions are irregularly performed, the appetite is depraved or lost; frequently they suffer from diarrhœa; the skin is usually of a rosy white, fine, transparent, with the cutaneous veins very apparent. Some authors, wishing to find in the colour of the hair a distinguishing sign, have laid down as a rule that scrofulous patients have blond hair. This proposition is much too general. Observation demonstrates, as I shall presently shew, that we meet a larger number of the shades of

dark than of blond in this disease. There are certain distinctive characters presented by the extremities: usually they are thin, without the ordinary quantity of muscular power; but the articulations are large, and this is especially apparent at the knee and the elbow. Sometimes this apparent enlargement is delusive, and is produced by the want of natural fulness in the limb; at other times disease has commenced in the articulations, and tumefaction exists there, affecting principally the fibrous tissues. Again I repeat that each of the appearances I have enumerated may exist without a scrofulous constitution; but their conjunction is most important, and calculated to produce a conviction of the existence of the disease we are considering.

Of all the infirmities which afflict the human species, scrofula is certainly one of the most tedious and most difficult to cure. It belongs to the class of diseases termed constitutional; that is, a disease so identified with the economy, that a considerable change or impression must be made upon the system generally, before we can destroy this condition. Nature seems to have much more power than art in bringing about such a revolution. It is not rare that we see the strumous constitution losing its intensity, and completely effaced, under the influence of those changes brought about at critical periods of life.

Considered in its ordinary limits, scrofula is a disease proper to an early period of life, and also a very common one; it is not of itself mortal, but may become so by affecting organs essential to life. It may terminate in many ways, either by complete resolution, leaving no trace, which unfortunately is rare. Suppuration is the ordinary termination. It varies singularly in its duration. When it is preceded by acute and painful inflammation, it is rapidly brought about; pus does not then present the usual characters of scrofulous suppuration. When, on the contrary, the inflammation is slow, the pus is thin and serous; it has not that white creamy aspect which we see in healthy pus; it is not thick, but whey-like. These tumors ordinarily contain "tuberculous" matter, consistent or softened. When scrofula affects bones, it has analogous terminations. Most commonly its progress is slow; this is partly owing to the nature of the affected tissues, but it may terminate by resolution. Often the fibrous tissues which surround an articulation form large masses; "tuberculous" matter is deposited in their interstices, and the joint acquires sometimes a very large size.

There are certain diseases common to our climate, the ravages of which are unquestionably increasing in frequency, if not in intensity; and of these scrofula is one. Our power over this disease, when once developed, is comparatively inconsiderable. By that I do not mean that we are not frequently able to combat with success glandular depositions, but the disease is constitutional, and this it is difficult to modify so as to eradicate the disposition to new deposits when old ones are removed. We cannot, therefore, reasonably hope to lessen its ravages until we can exert some restraint over those causes under the influence of which it would seem to be developed; to them consequently much attention should be devoted, for the purpose of determining the more efficient of these causes, and the extent of our power to exercise over them any control.

Among the causes of this disease numerous agents have been ranged: of these the principal are hereditary transmission, lymphatic temperament, contagion, syphilis, food, filth, clothing, vitiated air consequent upon imperfect ventilation. Now with respect to these so-called causes, no doubt one and all of them may be so mixed up with particular cases, as to render it difficult to prove that they may not have stood in the relation of cause and effect; but such apparent relation in particular cases will be dissipated, if I shew that, in a very large majority of cases, one or more of these causes has been absolutely wanting.

Hereditary transmission.—If we assume tubercular and scrofulous matter to be identical, I do not hold that the specimens referred to in different museums, where tubercles were developed during intra-uterine life, support this conclusion, because it is not shewn that in these cases the parents presented any similar condition, and because unquestionably diseases may be developed during fœtal life which the parents did not present. It may be said, and no doubt truly, that "hereditary" diseases are not necessarily manifested at the moment of birth; but I think that it is equally true, that there is a great want of cohesion in the idea generally current with regard to hereditary diseases. Cullen states that he knew a family the father of which was tainted with scrofula: all the children who resembled him were scrofulous, whilst those who resembled the mother were exempt. It is necessary to bear in mind that Cullen was strongly preoccupied in favour of hereditary transmission in this and other diseases. In the affected families which I have examined, the father was affected only once, whilst the mother had suffered in eight cases; and my own observations in this and other hereditary transmissible diseases lead me to the conclusion, that

the mother is a much more important agent in this mode of propagation than the father. Again, with respect to this influence, those who, like Cullen, believe that it is almost always hereditary, or like Lemasson-Delalande, who stoutly maintained that it could never be acquired, find themselves frequently involved in serious difficulties, especially when it is impossible to pronounce for the existence of similar disease in the parents; but there is no difficulty so great as that it may not be overleaped; and this difficulty is dissipated by passing back through one, two, three, or any other number of generations, until we find some ancestor in whom the disease had existed; and when we consider how commonly, unhappily, this disease is seen in our own land, it would be unfortunate, indeed, if it were necessary to pass through more than two or three generations before we arrived at some miserable sufferer from its ravages. Kortum clearly set forth the cause of this error when he said, "Fuere è recentionibus varii qui similes progeniei et parentum morbos à simili diæta et vitæ genere potissimum repeterent."

I will now proceed to offer direct evidence in favour of the opinion I entertain that scrofula is not ordinarily a consequence of hereditary transmission. I do not propose to seek to establish that such transmission is impossible. Eighty-three children, presenting unequivocal signs of scrofula, in various forms, and living in the parish of St. Marylebone, were found to be the issue of fifty-eight marriages. Of the hundred and sixteen parents eighteen were either dead or missing; and of the remaining ninety-eight, nine only presented any marks of scrofulous affection. In none of these cases were both parents affected. The children proceeding from these nine families were in number thirty-nine, and of these only eleven presented any of the ordinary forms of scrofula. Of these eleven, three were found in one family, and one in each of the remaining eight. This evidence appears to me strongly to favour the conclusion, that if hereditary transmission have any influence in the production of this disease—that if the cause rest upon the parent at all, of entailing involuntarily upon the offspring the disease we are considering—it does not exist to the extent which is commonly supposed; and I cannot admit it to be proved at all.

Of the families indiscriminately taken, in which scrofula was found to affect one or more of the children, only two in fifteen presented the disease either in the father or the mother; and these families actually presented a smaller proportion of cases than those families in which neither parents presented any mark of the disease.

The *lymphatic temperament*, so much insisted on as a cause of this disease, does not, I apprehend, cause the disease at all: in fact, of the eighty-three cases already referred to, forty-six presented dark chestnut or black hair, dark complexion, dark eyes, active and spare habits; whilst of the remaining thirty-seven much difference of opinion existed as to the class to which they belonged—at least ten of them should be excluded from the temperament termed lymphatic. Therefore I would maintain that the opinion of Richerand, that the lymphatic temperament exaggerated constitutes scrofula, is incorrect; and the opinion I entertain on the subject is, that the particular constitution which it is said especially predisposes to scrofula, is nothing else than a constitution upon which scrofula has already seized, and impressed certain marked characters—such as a fine transparent flabby skin, a large face, thick lips, with a great tendency to crack, frequent eruptions on the scalp, stoutness conjoined with feebleness, more imagination than physical power. I believe, then, that the lymphatic temperament in no way predisposes to this disease; but if other causes excite its production, I admit that the lymphatic temperament would offer less resistance to its development than any of the others.

The question, whether or not scrofula be capable of communication by *contagion*, is one of so much importance to the happiness of families, that it might naturally be expected that considerable attention would be devoted to the subject, for the purpose of determining whether separation or isolation which is often so distressing, be a precaution which the heads of families could not neglect with impunity. Happily, at this moment, the commonly received opinion is, that the disease is not contagious; and I am not about to state any thing which can throw doubt on such a desirable conviction, but I am bound to lay before you the evidence, or at least such of it as is material for you to know, upon which this conviction rests. It is true that in the last century, the question of contagion, as a quality of this disease, was submitted to the Faculty of Medicine of Paris by the Parliament; it is equally true that an affirmative answer was returned; Dulaurens stating, "Contagiosum esse multi experiuntur." Of course so long as the disease was supposed to be the result of a particular virus introduced into the economy, the probability of contagion could be with difficulty denied; but in the present day, when that opinion is no longer tenable, the advocates of contagion are dropping off.

In the Hôpital des Enfants, at Paris, where commonly from a hundred to a hundred and fifty beds are occupied by scrofulous patients, exhibiting the disease in every stage and form, no facts have been observed to warrant this opinion. In a school in my own neighbourhood where the disease is very commonly seen, the sufferer from scrofula, unless confined to bed, mixes indiscriminately with those who are healthy—at meals, at play, and at night they occupy the same dormitories; but no circumstances have ever occurred to warrant a suspicion of contagion. In families, we find two brothers, or two sisters, sleeping together, one suffering from this disease, the other free from it, but no communication. I therefore unhesitatingly say with Kortum:—"Quotidie occurrunt exempla ubi sani infantes cum scrophulis arcto et ipsius lecti consortio fruuntur, nec tamen ipsis morbus communicatur." But then it is maintained, that in families we very frequently see the disease developed in one child after another, until a whole family have been infected, and that here contagion must be admitted. At this moment I know a family in which the disease has occurred in an aggravated form in every child but one of a large family; but in none of them is it manifested before the age of seven: the one who has escaped was removed from home at eight: the father and mother are free from it; but every child save one has acquired the disease—not by contagion, for they would have suffered earlier in that case, in consequence of being much more together than at any subsequent period—they acquire it under the influence of circumstances to which I shall presently allude. They resist it until they are pulled down by the irritation attendant upon the second dentition.

With respect to direct experiment, many objections may apply to it; certain diseases may be caused by respiration; certain others by the direct and simple contact of a virus; others by inoculation. In the disease under consideration, upon which test should we rely? what fluid or solid contains the germ of the disease? Hébréard has inoculated dogs with scrofulous pus without success; Lepelletier has repeated the experiment upon Guinea pigs with a like result; Kortum has rubbed the neck of a child with pus furnished by a scrofulous ulcer—he has even made a wound behind the mastoid process for the purpose of inoculating a child with similar pus, but without exciting the disease. But when should this pus be taken? Sœmmering believed that the experiment would succeed if the ulcer presented the characters of this disease in considerable intensity—but it is a mere matter of opinion. A colleague of Lepelletier, at the same time that he vaccinated many other children, inserted pus proceeding from scrofulous ulcers. The vaccine virus manifested itself in the ordinary way, but scrofula was not developed. I can conceive no justification which this person could offer for this wanton outrage. Lepelletier felt this, and made himself the subject of experiment; he inserted similar pus under the integument in various parts of his body, but no symptom of scrofula was manifested. Again, to test the opinion of those who maintain that the contagion of this disease resides in the cutaneous transpiration, he inserted under the cuticle, at several points, the fluid taken from a blister applied upon the body of a scrofulous sufferer; a little suppuration occurred at one puncture, but on the fourth day it was entirely dissipated. Mr. Goodlad has performed similar experiments, and with similar results. To the case of Rowley, in which he says the inoculation of small pox produced scrofulous tumors in the neck, I attach no importance, because it does not appear that the virus was taken from a scrofulous person, and because small-pox appears frequently to excite the development of scrofula. De Haen maintains that scrofula more commonly succeeds to inoculated than natural small-pox. Cullen supports an opposite opinion.

To my mind these experiments carry no conviction either way. And if experiment be capable of determining the question, it is yet to be made. If I were to perform any experiments on the subject, I should not employ the pus proceeding from a scrofulous abscess. And for this reason; there seems to be a period when the ulceration which marks certain contagious diseases does not furnish a pus capable of propagating that disease; I would, therefore, prefer inserting under the integuments, the tubercle-like matter, which is the marked pathological characteristic of the disease in question.

I do not think it necessary to occupy your time long with the question of the communicability of the disease to a child through the milk of a nurse, because I can throw no light upon the matter. Bordeu thought it was impossible to deny it. How, says he, can you refuse to admit, that a virus so intimately mixed with solids and fluids should not be communicated by means of the milk to a sucking child? First, it is necessary to show that a virus exists; and next, that it must necessarily be contained in the milk. Syphilis pervades the system pretty completely, and yet I am not aware of any case in which the disease has been communi-

cated to the child solely by means of the milk of the affected person. Direct experiment here is difficult; we do not choose a scrofulous nurse to suckle a child; and if the mother be the scrofulous nurse, we have no more right to believe that a virus has been contained in the milk than that the disease was hereditary; for then we should have to deny the influence of other agents, which we shall speedily consider. So much, however, is certain, that if we admit—which I have not done—a similarity in nature amounting almost, if not altogether to an identity between scrofula and tubercular disease, we may then support ourselves by this fact, that in those cows which suffer from tuberenlar deposits, the milk presents, as was shown by Labillardière, seven times more phosphate of lime than is found in the milk of a healthy cow. If we admit for the moment, that the milk of a woman suffering from scrofula undergoes a similar change, we have yet to prove that such a change in milk is capable of producing scrofula. Of one thing I have little doubt, that the milk of a person so suffering is less fitted for the purposes of nutrition than that of a healthy woman; but it is not proved that deficient nutrition alone is the cause of scrofula.

Syphilis.—If we take as a fact—the truth of which is generally admitted—that syphilis was unknown in Europe until the return of Columbus from his first voyage to the shores of the New World, it must, I apprehend, be also conceded, that scrofula was not originally "degenerated syphilis." I am, therefore, at a loss to understand any sufficient ground why men of considerable reputation have so stoutly maintained this hypothesis. These authors, it is true, maintain that there is the greatest similarity between the two diseases; that both produce ulcers of the skin and caries; that both affect lymphatic glands, which become tumid; that both are cured by similar means. To me these positions appear preposterous. Take first the glands: in syphilis it is those of the groin or thigh which are usually affected; in scrofula those of the neck: in syphilis, caries usually affects the head or neck; in scrofula, the extremities, and especially their points of articulation, principally suffer. Mercury is the remedy in syphilis; mercury, similarly administered, is a most baneful method of treating scrofula. There are other reasons which may be brought to bear against this hypothesis; that in many situations syphilis is extremely common—scrofula very uncommon. Take Palermo, for instance, where syphilis is probably more rife than in any part of Europe, scrofula is comparatively rare. Therefore, even if we admitted that syphilis was known in Europe from very early times, it is still far from being proved that it is the cause of scrofula; but I apprehend it to be clearly made out that scrofula has existed in Europe for centuries long anterior to syphilis. I am aware that those who maintain the hypothesis we are considering, deny this early existence of scrofula, and urge in support of their plea, that struma and scrofula are different diseases. But any one who reads attentively Celsus, Guy de Chauliac, or Roger of Parma, can urge no valid objections in support of this opinion. Again, if we take the power conceived to be possessed by kings of curing this disease by the royal touch, we may follow this disease from the days of Clovis in the fifth century, up to a very recent period. In the absence, therefore, of better evidence, tradition would come in support of the identity. Clovis was supposed to have derived this power, as all other kings were conceived to have acquired it, by inunction. I know it is believed by some persons that syphilis existed in Europe long before the days of Columbus, and that the Book of Leviticus has been appealed to in support of this view of the subject, as well as the work of William of Salicetus, whose description seem to be more specific, and which bears date 1280; but I know, also, that the best authorities are opposed to this view of the matter.

I am not prepared to assent to the generally received opinion, that *food, filth*, and *clothing*, have any very direct influence in favour of or in opposition to the development of scrofula; neither am I disposed to admit the correctness of the statement, that of the cases of scrofula which come under consideration, a very large proportional majority are found to afflict the poor. I say proportional, to guard myself from misinterpretation, because, as the poor constitute a majority of the people in all lands, there can be no doubt that they furnish a majority of the cases of scrofula. All that I wish to convey is, that this affliction does not fall much more heavily, in a given number of cases, upon the poor, than upon those whom providence has placed in a better condition. My reasons for believing that the three circumstances above alluded to have no great influence in producing this disease are as follows. A friend has furnished me with the following results obtained from one parish in Wiltshire:—"There are in this parish 49 families, the heads of which earn seven, eight, or nine shillings per week. The number of children in these families amounts to 153; they have, many of them, scarcely rags to cover them; they scarcely get any animal food, and live principally

on what would seem to be an insufficient quantity of coarse bread, potatoes, and some butter milk. Of these children only three presented any of the usual symptoms of scrofula." In four courts in the parish of St. Marylebone I have found 93 families, containing 201 children, the greater number running about, some engaged as errand boys, and so on; very few with shoes or stockings; most of them with clothing insufficient to cover them; scarcely any of them with enough to protect them from the cold: fed upon pretty good bread, potatoes, and an occasional piece of meat—in fact, much better fed than the children of the Wiltshire agricultural labourer. Of these children 19 presented manifest signs of scrofula, affecting the glandular system, the eyes, or the bones. Now as far as food, clothing, and probably cleanliness, are concerned, the Marylebone children were at least as well off as those of Wiltshire: whence comes, then, the greater frequency of scrofula in the former? Take the people of Palermo, and who are worse fed or worse clothed than they are? Their food frequently unripe fruit, a little Turkey wheat boiled in water, and probably a little fish; and what people more free from scrofula than they? Scrofula is occasionally endemic at Göttingen, and is attributed to the use of the potatoe as a principal article of food—a speculation which was hazarded by Haller. It is said, again, that it is to the *food* that the negroes transplanted from Africa into Europe owe the development of scrofula. To what, then, do the animals introduced from torrid climes to our own owe the development of scrofula and tubercles? The lion and tiger eat only animal food in a state of nature; they get only animal food here. The monkey eats fruit in his own land; he gets it here. Some other influence than food must, I apprehend, be in active operation to produce scrofula. There can, however, be no reasonable doubt that food of bad quality or deficient in quantity, may prejudice the health—may exite the mesenteric glands to unhealthy action—may, in fact, lay the patient open an unresisting victim to the attacks of scrofula, or any other disease.

A few remarks seem necessary with regard to *water*. It has been stated by many writers that the inhabitants of certain valleys in our own and in other countries owe the frequency of their suffering from this disease to the water which they use (snow water); but the only difference which has been distinguished between this water and river-water is, that it contains a smaller portion of atmospheric air. But then, according to the evidence of Saussure, the mountaineers drink the same water as the inhabitants of the valleys; and among them scrofula is rare. It is true that, at Rheims, there has long existed an opinion that stagnant water produced scrofula, and that, in consequence of this impression, a rich and benevolent canon devoted a part of his riches to the construction of an hydraulic apparatus, by which a stream of water from the Vesle was directed upon the town. It is further stated, that after a few years the number of cases of scrofula diminished. When Desgenettes inspected, in 1806, the Hospital of St. Marcou, specially devoted to scrofula, he ascertained from the registers of this institution that the number of cases had greatly augmented since the water-works had got out of repair. Now these circumstances, which appear so like a true narrative, are contested by Baudelocque, who says in 1777, Laignières, after examining the registers of the same hospital, stated that the number of cases of scrofula had diminished more than half since about thirty years; and that these water-works had only been constructed in 1753, and that therefore the water could have nothing to do with it. Whether or not the water had the affect attributed to it, may still be a question; but I cannot help thinking that Baudelocque's reasoning is hardly satisfactory—in fact, too strained. About thirty years may often mean twenty-four; and *since* may often mean *during*. He would rather refer the amelioration to the widening of certain streets, which seems to have been *ordered* in 1755, and to the improvement in sewerage, which occurred between 1732 and 1748. It is not denied that the disease has increased there since the waters of the Vesle are no longer directed upon the town; neither have the wide streets been reduced to their pristime narrowness; nor have the sewers again become uncovered; therefore upon the above data, we think the water advocates have the best of it. But further evidence would be required before we should be authorized to pronounce judgment. Among the information that is required is the state of the poorer classes. New operations of manufacturing industry have, I believe, been introduced, and the population of certain quarters of the town has become much more dense—something like our Spitalfields. The influence of this state of things should be weighed.

If *filth* were a cause, how fearful would be the ravages of the disease! See the German Jews: can any thing be more filthy than their children? And it is true the disease is frequent among them; but take children upon whom every care is lavished, they become the victims of scrofula. Can any thing be more filthy than the people of Palermo? yet the disease is comparatively rare there. Take our own

country, the people of which are reputed among the most cleanly in Europe, and the disease is extremely common.

Atmospherical influences in the production of this disease, if they have any effect, are inconsiderable. If you deprive vegetables of light, they become bleached or colourless. If you deprive a human being of light, a somewhat similar appearance is produced in his person; but whatever may be said, this state is not scrofula; it may be a state of debility predisposing to any disease.

With respect to *temperature:* it is in those countries which are temperate that the disease is most commonly seen. Once developed, the transitions from warm to cold are decidedly injurious. In the St. Marylebone Infirmary, the amendment in cases of scrofula, which during the summer and the beginning of autumn has been progressive, is interrupted; and on the approach of winter they very frequently commence a retrograde march; but my registers do not shew any great proportional increase of application for admission or attendance during winter than is observed with regard to most diseases. M. Baudelocque maintains that this is not owing to cold, but to the patients continuing longer in bed, using no exercise, and remaining in a ward where the air undergoes no sensible change from day to day, and where, therefore, a vitiated air is constantly respired: he is still more firmly impressed with a conviction of the correctness of this view by the fact that among private patients this stationary condition or retrograde movement is not observed, and that the action of anti-scrofulous medicines is unchanged. That this is the result of M. Baudelocque's experience I do not doubt, but I fearlessly ask those who have frequent opportunities of observing the disease in our own countries, whether their experience is not the converse of this? My own opportunities of observation have been considerable, and certainly the retrograde tendency in scrofulous ulceration during winter is very nearly as remarkable as I have usually seen in the wards of an hospital.

With respect to our own land, it may be interesting to inquire, whether the *humidity* of our climate exercises any particular influence in the development of the disease. Holland is a more humid country than our own, and probably suffers more from scrofula; but then many very dry countries are equally afflicted — many damp ones are nearly exempt. I am therefore inclined to believe, that alone this is insufficient to excite the development of the disease, but the data necessary for determining the question are wanting.

It is believed, by M. Baudelocque, that the "*vitiation of air* consequent upon insufficient ventilation, is the *true*, perhaps the *only* cause of scrofula—that where there are scrofulous people this cause exists—that wherever it exists there shall we find scrofula—and that where it is wanting scrofula is unknown." I would readily concede to him, that in large towns scrofula is most commonly found in those densely-peopled quarters where ventilation is ill performed, but then it should also be borne in mind that there are other causes of disease also in action. No one in our own country will deny that although scrofula is found in the greatest quantity where dense masses are collected in small spaces, that it is also found where houses and rooms are lofty, streets wide, and every care lavished: no one will, I apprehend, deny, that in the houses of the rich and great, in towns and out of towns, this disease is very frequently developed, where the cause in question does not appear to be in operation. He triumphantly refers to Spitalfields in support of his opinion, and compares it with Whitechapel; in the former, says he, the entire population is tainted with scrofula, and a large proportion have crooked spines, are pale, emaciated, and miserable; the young man of twenty looks forty; no aged person is seen unmutilated; crook backed, round shouldered, bow legs, and long arms. A man above five feet is a giant. In the latter, says he, which is an adjoining quarter, the houses are better, the occupations of the people are different; they are not heaped into small rooms—and the people are vigorous, "well-built," and good-tempered. From the inquiries I have made, I would incline to the opinion that scrofula is much more common in Spitalfields than Whitechapel, but Baudelocque's preoccupation in favour of his theory must have been pretty strong, and his information extremely inaccurate, to have enabled him to paint such a picture of the inhabitants of Spitalfields: although I admit, as a fact, that the inhabitants of Spitalfields are greater sufferers from this disease than their neighbours of Whitechapel, yet my data are very insufficient to warrant me in speaking of it as an established fact: it must be borne in mind that many portions of Spitalfields are not so densely populated, nor so completely occupied, as he would suppose, with their looms; and that a good deal of the adjoining portions of Whitechapel are similarly tenanted and similarly occupied with corresponding portions of Spitalfields.

Again, he states, what my own observation convinces me to be perfectly true, that a very large quantity of this disease is de-

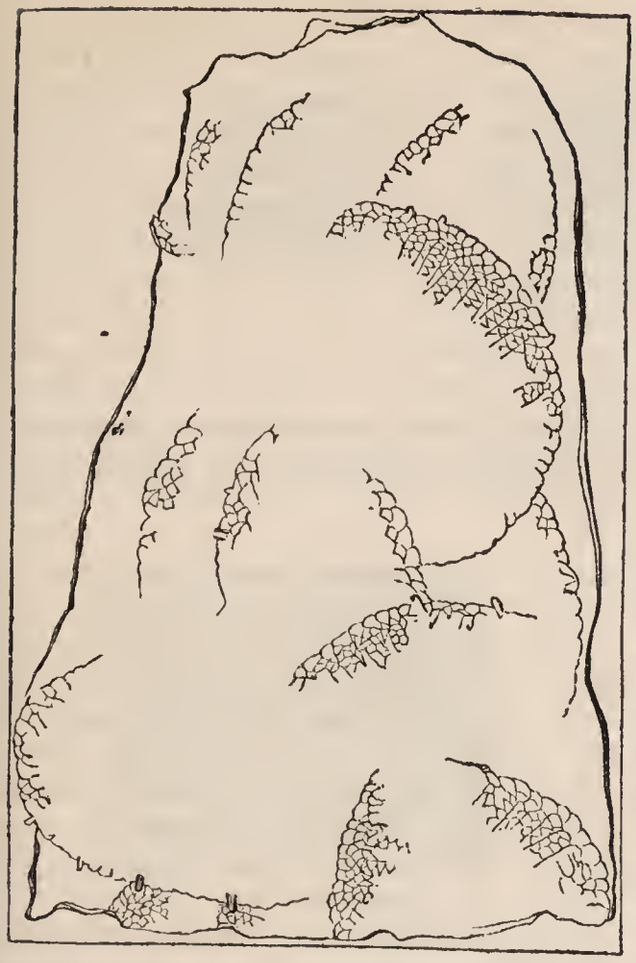
veloped in persons occupying a somewhat different rank in large towns—small shopkeepers; and with respect to them, we may apply the same reasoning as to the poor weavers—they rarely escape from their houses except for a few hours on Sunday, and not always then. The upper part of their houses is usually let out to lodgers; their only retiring room is often a miserable little room behind the shop, which often also serves as a bed-room. Ventilation is scarcely at all effected, and from day to day very little change takes place in the air of these rooms, which must become extremely vitiated, and very unfit for the purposes of respiration. Adults may and do struggle against such a noxious influence for a long time; but we need only look at a large portion of this class of people, to be assured that their health is seriously undermined—that their power of resisting disease is greatly weakened. With children, however, the case is more serious: for a few hours a day they may be sent to a neighbouring school, but this does not better their situation; from a small room at home, ill ventilated, and with perhaps four or five persons occupying it, they proceed to another room hard by, little if at all larger, and occupied by from twenty to fifty persons. Such is the life they lead, at a time when they are most susceptible to the attacks of disease; and there can be, I apprehend, little doubt, but that the mean duration of life in this class is much shorter than in persons in a similar class, whose avocations do not confine them to the house, or to such small rooms. And after the register of the Enfants Trouvés, and other establishments devoted to children, it results that the ravages of scrofula are more decidedly felt, whilst the children remain in these establishments, and that their health becomes sensibly ameliorated when they are sent to small houses in the country. In the larger receptacles a large number is confined in comparatively small spaces, and comparatively little opportunity for exercise is afforded them. In the country, although the rooms are small, the number occupying them is also small, and their facilities of taking much exercise are almost unlimited.

RECENT RESEARCHES OF MR. NASMYTH ON THE STRUCTURE OF THE TEETH.

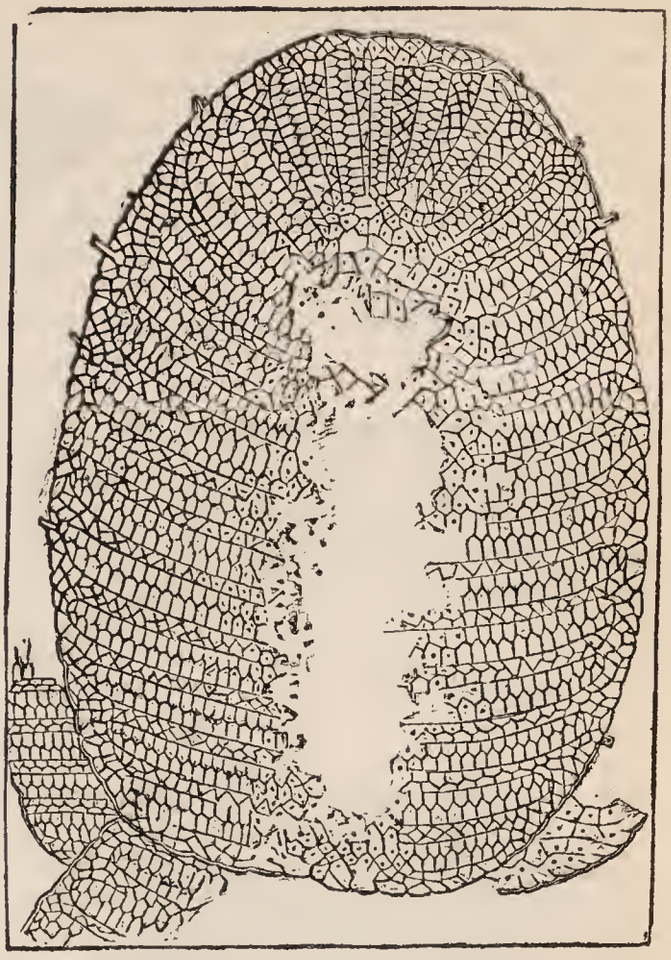
At the last meeting of the British Association, held at Birmingham on the 26th of August last, a valuable paper was read by Mr. Nasmyth, on the structure of the pulp. We should certainly have published a report of it at the time, had we then been able to illustrate it by diagrams; without which, some of its details cannot at once be made plain to the reader: but having since procured the necessary woodcuts, we shall no longer delay to give an account of researches which are as original as they are interesting. According to Mr. Nasymth, the internal structure of the pulp generally presents a remarkable number of minute cells in a vesicular form, which constitute the principal portion of its bulk. These vesicles vary in size, from the smallest perceptible microscopic appearance, probably the one-ten-thousandth part of an inch in diameter to one-eighth of an inch, and are evidently disposed in different layers throughout the body of the pulp. When thin layers of macerated pulp are examined, they present an irregular reticular appearance, and are found to be interspersed with granules. The parenchyma is traversed by vessels, of which the direction is generally vertical. Mr. Nasmyth has frequently been struck with the rapidity with which the pulp diminishes in volume, and with the extent of this diminution. Sometimes, indeed, it would appear, in a short space of time, to be almost annihilated; and this seems to take place more decidedly when the tooth has been in a healthy state, and more so in adult than in temporary teeth. This shrinking or almost total disappearance may be accounted for by a peculiar collapse or change in the congeries of cells of which the pulp is made up. With respect to their contents, these cells must evidently be filled either with air or fluid; but they are so extremely minute that Mr. Nasmyth has not yet been able to ascertain which.

Much diversity of opinion (he proceeded to remark) has always existed, respecting the connection of the pulp with the ivory of the tooth, and as to whether the ivory be a simple product of the pulp or a transformation of its substance. The formative surface of the pulp, he said, displays a general cellular arrangement, which he denominated reticular, and which may be described as resembling a series of skeletons of desiccated leaves, as seen in woodcut No. 1.

No. 1.



No. 2.



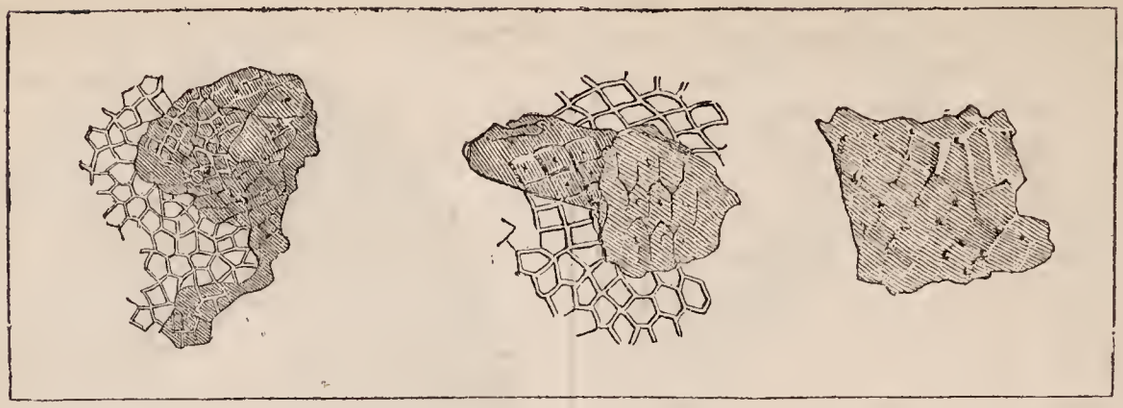
The large compartments or leaves of this net-work are seen to be oval, and overlap one another; and on insulating one of them, its structure is observed to be curious and regular, as seen in wood-cut No. 2.

These beautiful reticulations have peculiar diversities in different animals. Mr. Nasmyth first observed them in the human pulp, and soon found them in all other animals which he had an opportunity of examining, varying in size and arrangement in different cases. Not the least valuable part of Mr. Nasmyth's communication was that to which he next proceeded—to wit, the subject of the formation of ivory by the pulp; a subject hitherto remarkably obscure, and on which he advanced his ideas with great caution and diffidence. When the pulp in a recent state, he said, is deprived of its covering of ivory, there may be observed on its surface innumerable detached cells, with central points, as seen in woodcuts Nos. 3, 4, and 5, next page.

Nos. 3 and 4 display portions of the reticular surface of the pulp, with patches of recently-formed ivory on its surface, the division of which into cells is always very visible while in that stage.

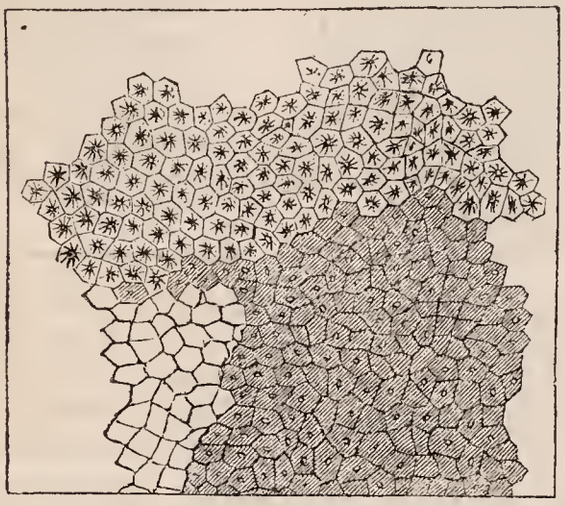
No. 5 is a variety of appearance, as seen in an insulated mass of recent ivory. These cells form frequently a regular and complete coating, studded with points, on the surface of the pulp; and these points are placed at intervals corresponding in extent to those between the fibres of the perfectly formed tooth. These points are rendered visible from the greater opacity of the intermediate material produced by its earthy structure, and they will be seen to reflect or absorb the light according to the difference in the focal distance at which they are viewed. A comparison between the superincumbent perfect ivory and the formative surface of the pulp beneath, is always easy, because portions of the former, at an early stage, at any rate, remain adherent to the latter, and fragments of the dental bone are found strewn over it; more especially in human teeth. The cellular conformation of these fragments is always evident, and in size and appearance the compartments are perfectly accordant with the cellules of the pulp. At an early stage of the dental development, the reticular or cellular appearance of the pulp is particularly beautiful. When merely a thin layer of ossific matter has been deposited on its surface, it may with great facility be drawn out entire, together with the former, laid on glass, compressed a little, and then

No. 3. No. 4. No. 5.



examined with the higher powers of the microscope. The different layers of cells will be seen, and the transition state of the ivory observed, as will appear from woodcut No. 6.

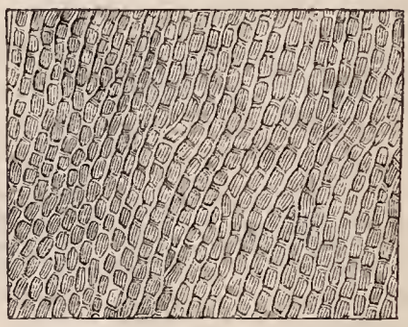
No. 6.



The framework of the reticulations Mr. Nasmyth supposes to be composed of fibres, which, by a process of evolution, become the fibres observable in the structure of all teeth. At all events, he stated that the diameter of the framework of these reticulations is precisely that of the fibres of the ivory, and the points or projections rising from the framework correspond to the centres of the ossified cells, and may be traced to belong to their structure.

The dental fibre, Mr. Nasmyth thinks, is made up of single successive granules, which are developed, one after the other, from the body of the pulp. He has been induced to think so from very extensive observations on the fibres of various kinds of teeth, and from the examination of decomposed teeth. He found that when carefully viewed, they assumed a baccated appearance, both in the perfect and decomposed state. When the decomposition of the tooth was carried just far enough to empty the cells of their earthy contents, and leave the animal tissue intact, the appearance seen in the following woodcut was evident—a structure exactly what might have

No. 7.



been predicted from such a conformation as his direct observations on the development had unfolded to him. Purkinje and Raschkow, he said, stated, that the pulp consists at first of nearly uniform globules, without vessels and nerves; that afterwards vessels arise in it; and at last, nerves also. On the surface, according to these authorities, the globules are more regularly arranged and more longitudinally extended, and are turned in an external direction under right or very slightly acute angles. These longitudinally drawn out globules, Mr. Nasmyth observes, are plainly cylindrical cells. They contain, very evidently, in fresh teeth, the characteristic cellular nucleus corpuscles, and are very similar to the prisms of the enamel membrane. If we draw the pulp of a young tooth out of its cavity, and then examine the dental substance, whether deprived of its calcareous salts or not by muriatic acid, we shall find on its internal surface, at any rate inferiorly, where the already formed dental substance is thin and soft, a layer of the cylindrical cells of the pulp. These have about the same thickness as the solid fibres of the dental substance, and also the same course; and, inasmuch as they on the one hand plainly belong to the pulp, on account of their conformity with cylindrical cells adhering to the remaining surface of the pulp; and

on the other hand, as they cohere more firmly with the dental substance than with the pulp, and remain attached to the former, Mr. Nasmyth presumed that here a transition takes place, and that the cylindric cells of the pulp are only the fibres of the tooth in their first stage. Sometimes these cylindriculi are not found on the dental substance, but then in their place are found a number of cellular nuclei. These are of a very pale colour, and are intimately connected with the dental substance, so that they are easily overlooked; but when the attention is once directed to them, it is impossible not to recognise them.

Schwann has arrived at the conclusion that the general structure of the pulp is cellular; but the results to which his further researches lead him differ considerably from those arrived at by Mr. Nasmyth. Mr. N. also detailed his observations on the interfibrous structure of the ivory and enamel: this he has found to be cellular, and he exhibited to the meeting many diagrams illustrative of this conformation both in recent and fossil teeth. Purkinje, Raschkow, and other inquirers in this department of anatomy have described this intermediate substance as "structureles," but Mr. Nasmyth observed that its cellular organization being a natural consequence of the cellular structure of the pulp of which it is a product, furnishes also an interesting confirmation of his views respecting the latter.

Against my theory, said Mr. Nasmyth, that the dental substance is the ossified portion of the pulp, the facility with which the one is separated from the other has been adduced, and he allowed the force of this objection; but, he observed, it is at any rate weakened by the circumstance that a portion of the pulp actually remains attached to the dental substance, and by the fact, that in half ossified ribs, for instance, the cartilage can be easily separated from the ossified portion, and it must be remembered that in the tooth the separation must be easy, in proportion to the difference between the consistence of the pulp and the ivory.

In addition to the above researches on the structure of the pulp, Mr. Nasmyth has lately made original observations on the epithelium, and on the structure of fossil teeth, on both of which subjects he read papers, illustrated by diagrams, before the Geological and Medical Sections of the Association. He has, moreover, lately published a paper in the last volume of the Medico-Chirurgical Transactions, announcing the singular discovery by him of a capsular investment of the simple adult tooth.

PRESERVATION OF BODIES.

To the Editor of the Medical Gazette.

Sir,

In your No. for Dec. 21 you published a paper "on the preservation of bodies for dissection," in which its author, Dr. Marshall, of Glasgow, takes occasion to condemn the means recently recommended for this purpose by Dr. Rees and myself, and prescribes a method employed by Mr. Daniel Wilson, of the Royal Navy, which he considers to be superior.

Dr. Marshall's first paragraph, which is somewhat obscure, seems to affirm, that our process is so much loaded with trouble and expense, as to prevent its ever becoming generally useful to the student of anatomy, or the practical anatomist. I shall therefore review both his process and ours, under the three following heads,—comparative expense; comparative trouble; comparative efficacy.

1. Comparative expense.—We must certainly yield to Dr. Marshall in this particular. One of his subjects cost in preparation five shillings, the other little more than two, while ours cost twelve shillings. But is this such a price as to prevent its ever being generally adopted? We think not. It is usual at our hospital for eight gentlemen to engage in the dissection of one body. The expense of bearing that portion allotted to each, efficiently preserved, is eighteen-pence, and when we take into consideration that the work of the students' hands may be studied for two months, instead of being allowed, in one quarter of that time, to "thaw and resolve itself into a dew," by putrefaction, we think that he will in reality be a great gainer, even in his pocket, by the difference. Dr. Marshall's process is certainly not so dear as ours; and there is no difficulty whatever in finding one cheaper than his, namely, that of salting down the subject like a round of beef. Salt can be had at little cost, and if we pickled on the large scale, and

bought our brine wholesale, I cannot tell you, though some of our provisional merchants perhaps might, at how low a rate the thing might be done.

2. Comparative trouble.—Our method, be it remembered, consists in injecting the subject by the aorta with pyroxylic spirits, and whilst the syringe is in our hand we throw a little into the rectum, and perhaps, also, by a small aperture, into the cavity of the peritoreum. How shall we measure this "load of trouble?" Suppose we do so time, and say, that the whole process will, at the utmost, occupy a quarter of an hour? Every school of anatomy has a professed injector, and in all probability it would not take him half so long. Now what is the trouble, similarly estimated, in employing what Dr. Marshall calls a "much more simple remedy?" I will quote his words: "The body must be punctured over the whole surface with acpuncture needles, or the point of a narrow bistoury, scalpel or scissors, the punctures being made pretty closely together, and deeply over the fleshy part, and, if for a dried arterial or venous preparation, the punctures ought to be made with very fine needles, and after injection." It is not very easy to ascertain the time that would be thus consumed. I have been calling to mind different operations on the skin that would most nearly approach this elaborate proceeding, and they all take up a pretty considerable portion: there is the plucking of a goose, the shaving of a pig, the clipping of a horse—but I bethink me of something still nearer the mark. I recollect, when a child, being employed, under a promise of a new arrival in the nursery, to stick a large toilette-pincushion. I was too young to blazon forth in pinhead splendour, so choice a motto as "welcome sweet babe," but I well remember, that the best part of an afternoon was spent in merely covering the cushion with pins. The puncturation of a single extremity would, even in older hands, at least equal my youthful labour. But let it not be imagined that the work is now finished. I quote again: "This being done, the body is brushed over with acetic acid, sp. gr. 1048, which must be brushed into it slowly and repeatedly, so that the acid may fully penetrate the innermost parts," and further "repeating the application of the acid to the surface of the body for six or eight days, will not only preserve it free from putrefaction, but at the same time remove incipient greenness." We are thus left to conclude that, without this repetition, it would not be perfectly preserved, and consequently that the repetition is necessary. Multiply therefore the slow and repeated brushing above-mentioned by eight, and then to the product add the scalpel, narrow bistoury, scissors, acupuncture needle, or very fine needle puncturation, and you will find a sum of trouble which, measured by time, might perhaps be fairly represented by a long summer's day. We have ceded the first point. Dr. Marshall must, in candour, allow that we have the advantage of him on the second. We now approach the third, which is by far the most important of the three.

3. Comparative efficacy.—Dr. Marshall on this head does not assume superiority, but contends that "his remedy" is equally efficacious as ours. We venture to differ from him, for the following reasons:

1st, His method, besides disfiguring and destroying the skin, which is objectionable in itself, renders the body unfit for injection, so that it must be performed prior to this operation. Ours does not, for wax or any other material may be injected at any time after its adoption.

2ndly, His scalpel or bistoury incisions, "over the whole surface, pretty closely and deeply over the fleshy part," must necessarily divide, not only muscular fibre, but nervous filaments, and thus materially interfere with the prosecution of minute anatomy. How, for instance, could we hope to trace the ramifications of the facial nerve after numerous unseeming gashes had been perpetrated all over the cheeks? The needles, it is true, are less objectionable in this respect than the cutting instruments, but their employment must be far more troublesome, and indeed they seem only mentally to have occurred, not actually to have been employed by Dr. Marshall, in either of the cases which he brings forward—a circumstance, by the by, which leaves us permission to doubt whether the acid would penetrate at all beneath the surface, through punctures, however numerous, made with very fine needles.

3rdly, The acetic acid turns the flesh white. Again I quote: "The whole of

the parts into which the acid had been brushed were perfectly restored to whiteness:" our process leaves the parts of their natural colour.

4thly, An acid preparation of any kind must greatly injure the blades, and immediately destroy the edge of dissecting instruments; and acetic acid of sp. gr. 1048, would even, I should suppose, after no very long period, remove the cuticle from the dissector's fingers, that being the precise strength of the strong acid of the London Pharmacopœia as employed for cauterizing warts, destroying ring-worm, &c.

In conclusion I would observe that, though no one who ever ate pickled salmon can doubt that vinegar will preserve animal matter, a quality which it shares in common with salt, nitre, alum, and various astringent substances, yet, for the reasons above mentioned, it is not more appropriate than many, and much less so than some of these, for the particular object under consideration, that of preserving bodies for dissection; and must be regarded as immeasurably inferior for this purpose to the powerfully antiseptic spirit which is recommended by Dr. Rees and myself, and which has none of the defects just enumerated.

I have the honour to be, sir,
Your very obedient servant,
B. G. Babington.

31, George Street, Hanover Square,
Dec. 24, 1839.

A CASE of SUDDEN DEATH DURING DELIVERY;

Related by Fred. F. Giraud, Esq.
Of Faversham.

In a Letter to Dr. Lee;

WITH HIS REPLY.

[*For the London Medical Gazette.*]

My dear Sir,

I have lately had a most distressing case in midwifery, which has grieved me very much, not from any harm it is likely to do my professional character here, but from its unexpected and sad termination. I am, therefore, most anxious to have your opinion upon it, and I shall esteem it a great favour if you will write me a few lines when quite convenient to you.

Mrs. S. was the wife of a labouring man, and was herself accustomed to work in the fields at certain parts of the year. The first time I was called upon to attend her, was in April 1834, when, after a very laborious labour, she was delivered without any artificial means, of a dead child, and from the appearance of the funis and skin, it must have been dead for several days. I am not certain whether this was her first child. The presentation was natural. In September 1835 she was again in labour. The head presented fairly, and although the pains were tedious, yet the head advanced slowly until it filled the lower opening of the pelvis: here considerable difficulty seemed to exist, and the pains diminished in force. I gave some infusion of ergot, which soon improved the pains, but the child was not born before two hours more had elapsed, and it was dead, but did not appear to have been so for any time. I could find no narrowing of the upper opening of the pelvis, but the difficulty appeared to exist at that part of the passage of the head when the occiput is just beginning to hook under the pubes.

In November 1837, Mrs. S. was confined again, of a still-born child. Her labour proceeded much in the same way as the preceding; the expulsory pains faltered when the head was low down and had passed the upper opening of the pelvis, and she entreated me to give her "the tea." The pains soon derived force from the ergot, and in a much shorter time than before the child was born, but it was recently dead; and on this account I resolved that if the woman should ever call upon me to attend her again, I would either bring on labour at the close of the eighth month, or trust to the use of the forceps. The adaptation of this instrument with safety to the mother and child, I have found the greatest difficulty in managing; and I am often surprised when I read and hear men talk of delivering by the forceps as a thing as safe and easy as taking out an incisor tooth. I therefore, when Mrs. S. desired me to attend her again, determined upon puncturing the membranes at the end of seven months and three weeks, and thus induce labour before the full time: accordingly, in the first week of October, I made an attempt to rupture the membranes with the stilette of a catheter. The os uteri was so far back that I could not satisfactorily make the point of my finger a safe guide for the stilette: I therefore waited a week,

and then made another attempt, and without much trouble passed the wire safely into the os uteri, and expected, with a little pressure, to feel the membranes give way, or perceive an escape of fluid, but this was not the case. The patient, however, assured me that she felt no pricking or pain when I pressed upon the stilette: without withdrawing it, I passed my finger round the os uteri, and finding the head of the child closely lodged upon the walls of the uterus, I desisted from any further use of the stilette, under a fear that I might perchance push it into the fontanelle. I had lately read some cases in which premature labour had been successfully brought on at this period of gestation, by the ergot of rye, and, I conceived, without danger to the child, as it only excited labour without bringing on inordinate contractions of the uterus; as I suspect it may do whilst contractile pains are already established during the latter stage of labour. I gave a few doses of ergot, both in the form of powder and tincture, but it only brought on pain in the back for a short time. I therefore determined upon leaving my patient until the full time had arrived, and, if the old difficulties should present themselves, to have recourse to the forceps.

On the 22d November, Mrs. S. began to feel premonitory symptoms of labour: this was at about 7 or 8 o'clock in the evening; and as I was just recovering from a slight attack of fever, I called upon her, and agreed with her, that if she should require any assistance during the night, I would send my assistant, as I was anxious to have a little sleep, and that in a few hours I would take his place, and remain with her until the birth of the child took place. She assured me she had continued to feel the motions of the child. At one o'clock in the morning Mr. Harper was called, and he reports that he found the os uteri rather larger than a crown-piece; the membranes had given way, the vertex was presenting, and the pains were of a dilating character. In less than an hour, the pains became more expulsory; the head soon passed the first opening of the pelvis; the patient did not complain of faintness, nor was there any flooding, either during the pains or between them. At about 3 o'clock, Mr. H. felt the pulse, which was firm and a little accelerated, as might be expected; during the expulsory pains her skin was dry and hot. At about half-past 3, the pains were gradually becoming less strong and frequent, but the head of the child had fairly reached the perineum. The woman in attendance said, that at the time of sending for Mr. Harper, Mrs. S. was on her legs in her sitting-room, and that during a pain her water broke, and with it rather more blood than usual was observed upon the floor. When Mr. H. arrived, no hæmorrhage was perceived, and the patient was in bed.

Between 3 and 4 o'clock, as before observed, the pains becoming less strong and promising, the husband of the woman was impatient, and called me up, saying, that as his wife had been accustomed to me, he was certain she would not be delivered until she had my attendance; accordingly, I was with her a little before 4 o'clock, and Mr. H. went home. I found the woman complaining of her pains "lying very much in her belly," to use her own expression. the head of the child was resting on the perineum, and the occiput beginning to pass under the pubes. The pains made no impression on the head in advancing it; and, as I have sometimes noticed that the character of labour-pain is improved by a little change of position of the patient, I advised the woman, as she was in her usual clothes, to help her up, and take off her day-clothes, and let her return to bed with her night-dress. Whilst this was doing, I retired into the adjoining room, and returned as soon as she was in bed again. The two attendant women made no remark to induce me to suppose that the patient had felt faint during the operation of moving her, but I felt her pulse, and was shocked to find it almost obliterated, and her hand and surface becoming cold. I lifted up the bed-clothes, expecting to find hæmorrhage, but there was only a very slight weeping from the womb, which appeared to be recent. There had been no tossing about before-hand, or gasping for air, or any other warning that hæmorrhage might be going on. I gave a quantity of spirits and water, which she drank with difficulty, then ran home (about half a quarter of a mile), procured the instruments, and perforated the head of the child. I was trying to draw the head down with the blunt hook, and experiencing some resistance, when the woman expired. At

this moment Mr. H., with the transfusing apparatus, and a brother practitioner in the town, whom I had also sent for, arrived: they were astonished at the little appearance of hæmorrhage in the bed, and as the woman was quite dead, they advised me to desist from any further attempt to bring the child into the world, as they thought the sight of the mutilated head would only add to the distress of the by-standers. I observed that as soon as the size of the head was diminished, blood made its escape from the uterus pretty freely, and continued to do so for a little time after the death of the patient. I could not obtain permission of the husband to examine the body, although every argument was used by other medical men and his neighbours. Now, my dear sir, pray let me hear from you what your opinion is as to the nature of this distressing case. I would willingly publish it in the MEDICAL GAZETTE, if you think it a duty to the profession that I should do so. If the head of the child had receded when the pains began to slacken, or if the woman had expressed any sudden severe pain, accompanied with jactitation and great anxiety, I should not hesitate in concluding it to be a case of ruptured uterus; perhaps your greater experience may lead you to the conclusion that it was so. I have been very prolix in my description, because I wish every circumstance to come before you.

Believe me, my dear sir,
Your obliged and faithful Servant,
FRED. FRAN. GIRAUD.

To Robt. Lee, Esq. M. D.
Golden Square.

MY DEAR SIR,

I have seen several cases, and heard of others, in which rupture of the uterus took place precisely in the same manner as I believe happened in your patient. About ten years ago, a woman, residing near Leicester-square, had slight dislocation of the outlet of the pelvis; when labour came on the head of the child passed readily through the brim, but it was arrested for some hours at the outlet. There was nothing unusual in the character, of the pain to lead the surgeon who attended her to suspect that the labour would not terminate favourably in a few hours. The pains however suddenly ceased, a slight oozing of blood took place from the vagina, the extremities became cold, the pulse scarcely perceptible, the respiration hurried, and she vomited a dark-coloured fluid. The head of the child did not recede beyond the reach of the finger. I was called to see her under these circumstances, and immediately delivered by craniotomy. She died in twelve hours, and on examining the body I found a great rent in the back part of the neck of the uterus. There was scarcely any distortion of the brim, but the outlet was contracted, by the sacrum projecting unusually forward, and the tuberosities of the ischia being nearer one another than natural.

I do not see how you could have prevented the accident which happened to your patient, except by perforating the head and delivering her earlier. The symptoms did not, however, warrant this, and as you made the attempt to induce premature labour, I think you are completely exonerated from all blame. The ergot of rye is of course a dangerous weapon in such cases, and if the forceps is not used with caution, it is not less so.

At one time I had great difficulty in inducing premature labour, when the os uteri was high up, and directed backward. Now I can succeed very readily in all cases with the stilletted catheter, which I have used for some years. It is merely Mr. Holmes's instrument, with a much greater curve, and a probe point, so that if the finger can touch the anterior lip of the os uteri, there is no difficulty in passing the point of the instrument forward into the orifice, and opening the membrane.

I remain, my dear sir,
Very truly your's,
ROBERT LEE.

London, 14, Golden Square,
17th Dec. 1839.

CASE OF HEMIPLEGIA IN A BOY ÆT. 9 YEARS.

To the Editor of the Medical Gazette.

SIR,

SHOULD you deem the case I herewith send you sufficiently interesting to be recorded in the pages of your valuable periodical, it is much at your service.

I am, sir,
Your obedient servant,
S. G. LAWRANCE,
Surgeon.

Royal Military Asylum, Chelsea,
Dec. 1839.

June 14th, 1838.—Frederick Middleton, æt. 9 years, a pale, but stout boy of his age, having congenital deformity of the chest, being what is commonly called *chicken-breasted*, was brought to the hospital at nine this morning with the following symptoms, having been quite well at bed-time last night. Extreme dyspnœa, panting for breath, the heart is seen and felt labouring violently, great anxiety of countenance, no pulse can be felt at the wrists, face pale and puffy, feet cold, upper part of the body of natural heat, vomiting of bilious fluid. Complains of no pain anywhere, only of great difficulty of breathing, with palpitation of the heart. Had immediately some hot wine and water, and a cordial mixture with carbonate of ammonia given him, while a warm bath was preparing, and a purgative enema was also injected. At 11 o'clock, after coming out of the bath, he was bled, but little more than an ounce could be obtained. Still no pulse at the wrists.

Imp. Empl. Cantharid. regioni cordis statim.

At 7 P. M. the dyspnœa and palpitation of the heart continuing unabated, the following was prescribed—

℞. Hydrarg, Chloridi, Pulv. Jacobi Ver. aa. gr. ij.; Conf. Opii, q. s. ft. Pil. 4tis horis sumend.

℞. Magn. Sulph. ʒiv.; Infus. Sennæ, Mist. Camph. aa. ʒjss; Liq. Ammon. aa. ʒj.; Sp. Æther. Nitr. ʒij. M. Capt. ¼ 4tis horis.

June 15th.—Has passed a restless night, but respiration is improved, although still much hurried and quick; less anxiety and pallor of countenance; bowels have acted freely, loose bilious motions. Pulse can now be felt at the wrists, but is very small, quick, and indistinct. The saline mixture was continued with the omission of the magn. sulph., and ℥xx. Tr. Scillæ was added; and the calomel pills were continued, substituting gr. ij. pulv. ipecac. c. for the James's powder.

June 16th.—Passed a better night; his respiration is easier, but still hurried, and the action of the heart continues inordinate. Pulse very small, quick and thready. Face now rather flushed, skin hot and dry; carotids pulsate strongly. Tongue covered with a brownish fur.

Enema purg. aa. Ol. Ricini et Magn. Sulph. aa. ʒss.; Pergat. in usu Mist. salin. diuretic, et Pil. Calomel, ter die.

7 P. M.—Respiration much easier. Pulse at the wrist more distinct, and continues very quick.

June 17th.—Has had a good night, and appears better; respiration less hurried, action of heart less violent and irregular, pulse 120, small. His diet is merely tea, and bread and milk; slight cough.

At 9 o'clock.—This evening his breathing became suddenly more embarrassed, his face flushed, and the action of the heart more violent. Tongue clean. Six leeches to be applied over the cardiac region.

Calomel, gr. j., Pulv. Jacobi Ver., gr. iij. h. s., and to omit the pills with Calomel and Dover's powder; Haust. ap. cum Magnes. Sulph. cras mane.

June 18th.—Has had a tolerable night, but his breathing is still hurried and laborious. Bowels freely open; pulse 120 to 130, and very small.

Mist. salin. ʒj. cum Tr. Digitalis, ℥v. 4tis horis.

At 7 P.M. his breathing became much more embarrassed, and now the difficulty of respiration appears to occur in paroxysms, as, for some hours during the day, he breathed with tolerable facility. Has also a great degree of tenesmus this evening.

To have a Starch Enema, with ℥x. Liq. Opii sed. Batt. Hirudines, iv. regioni cordis. Empl. Cantharid. inter scapulas; and the following draught:—

℞ Sp. Æther. Sulph. Compos.—Tinct. Hyosciami, aa. ℥xx.; Liq. Ammon. Acet. ʒij.; Mist. Camph. ʒvj. M. ft. haust.

June 19th.—Was tranquil, and slept a great deal during the night. Respiration much better, and performed with less difficulty, but is still rather quick; tenesmus abated. Pulse 120, small and irregular. Makes much urine.

7 P.M.—Appears easier; respiration more quiet.

June 20th.—Passed a tranquil night; respiration easy, and less quick; cough, with slight expectoration; pulse 110, irregular; tongue clean; abdomen rather distended.

Cont. Mist. Salin. cum Tr. Digitalis et sumat Haust. aper. cras mane.

21st.—A good night, and is much

better; breathing quite free and easy; pulse 110; skin cool; has voided a very large quantity of urine during the night; bowels open.

Mist. Salin. cum Tr. Digitalis, ter die.

Makes no complaint.

22d.—Had a good night, but about 8 o'clock this morning he became suddenly pale, faint, and collapsed, with a cold clammy skin, weak, but irregular pulse. Some hot wine and water was immediately given him, and a cordial mixture with carbonate of ammonia prescribed. He rallied in a few hours, and then a purgative enema was administered. When visited at 7 P.M. he was found to be completely hemiplegic, the right side of his body being paralysed; and he had also lost the power of speech, being unable to utter a word, but was perfectly sensible, putting out his tongue when required to do so, and, by motions of his head, replied to inquiries as to whether he had any pain in his head or elsewhere. He signified that he was in no pain. His respiration was also quite free and easy.

23d.—Has had a good night; passes his urine involuntarily; bowels rather torpid; pupils slightly dilated; pulse 100, soft, and small; complete paralysis of right side.

Mist. purg. ad sedes.

7 P.M.—His bowels have been freely opened since morning.

℞ Hydr. cum Creta, gr. iv. 4tis horis.
Empl. Cantharid. Nuchæ.

26th.—No material change. His gums are now tender: pulse 86: he voids his urine naturally, and in large quantity. The blister on his neck to be kept open.

Rep. Hydr. cum Cretâ bis quotidie.

July 1st.—He continues in the same state. Pulse 84; gums are kept tender; appetite good; pupils are now of natural appearance, and contract and dilate freely on the approach of light. The paralytic arm and leg are much colder than on the other side. Blistered surface of neck discharges freely.

Baln. tepid.

15th.—He appears better, for he can now bend and extend the paralytic leg, but has no power over his arm. He comprehends every thing that is said to him, and by motions of his head signifies his assent or dissent to questions asked him, for he cannot speak a single word. Has no pain in his head, nor has he ever complained of it. Pulse 80, regular, and of good strength. Gums still tender.

Cap. Hydr. cum Cretâ, gr. iv. omni nocte. A purgative occasionally. Diet broth.

℞ Infus. Cascarillæ, ℥iv.; Ammon. Sesquicarbon. gr. xij. M. Cap. ¼ bis quotidie.

August 1st.—Very little change since last report, except that his general health improves, and he now takes no medicine, beyond what is necessary to regulate the state of his bowels.

August 14th.—He continues slowly to improve; he can now walk about the ward with the help of a stick, dragging the paralytic leg, and he can articulate, distinctly, no, yes, and nurse. He has no use whatever of the paralitic arm. Full diet.

September 14th.—He is gaining flesh, and can now walk tolerably well unassisted, but his arm is quite powerless, and his speech does not improve. From this period, and during the whole of the winter, there were such slight variations in his general health and paralytic state, as not to require any particular notice.

On the 14th of April, 1839, he was attacked with measles, it being then prevalent in the Institution; he had the disease rather severely, which rendered him very weak, and unable to walk, although he could do so very well before the attack.

On the 9th of May he was sent to Herne Bay, with some other scrofulous children, for the benefit of sea-air and bathing. While there, in the month of May, he had so severe an attack of fever, that the surgeon who attended him did not think that he would have recovered.

On the 31st of October he returned here, much improved in general health and strength, quite fat and stout.

December 1st.—He can now walk very well, and even run, without any assistance, and with very slight dragging of his right leg. The paralytic state of his arm is but little improved; he can lift it above his head, but has no use whatever of the fore arm, and the fingers are contracted towards the palm of the hand, unless when counteracted by means of a splint. The temperature of the paralytic arm and leg is much lower

than in those of the other side, and the pulse is very small, and indeed scarcely to be felt at the wrist of the affected arm. There is no muscular wasting of the palsied limbs. His voice is not at all improved, for he can only articulate the monosyllables, yes and no, but this he does distinctly. His countenance is intelligent, and with the exception of the paralysis he appears to enjoy perfect health, his bowels being only rather torpid, requiring the occasional use of purgatives.

Remarks.—Regarding the above case there are a few additional particulars I wish to mention. The boy has been in this Institution since April 1836, and has been generally healthy, never having been in the hospital for any serious complaint previous to the attack on the 14th of June, 1838. I considered this attack to have been probably caused by sudden serous effusion into the pericardium, particularly as it was so much relieved by calomel and diuretics, and also by the large quantity of pale-coloured urine which he passed. The attack of hemiphlegia on the 22nd of June, so quickly occurring on the subsidence of the dyspnœa and cardiac symptoms, I am perfectly unable to account for, but consider it a very curious and remarkable instance of metastasis of disease. It will be observed that I have made no report of his state from 14th September, 1838, until 14th of April, 1839, when he was attacked with measles, a period of seven months. I should only have been unnecessarily prolix had I done so, as no material change in the symptoms occurred during the whole of that period. I may also remark, that since the attack of hemiplegia, he has had no return of palpitation of the heart, or difficulty of respiration.

PRECOCIOUS PUBERTY.

To the Editor of the Medical Gazette.

Sir,

Should the accompanying case be deemed worthy of a place in your journal, I should feel obliged by its insertion.—I remain, &c. &c.

Thomas B. Peacock.

Chester Infirmary, Dec. 8th, 1839.

Jane Jones, who is the subject of this notice, first fell under my observation about a year and a half ago, when I was consulted by her mother in consequence of a discharge, bearing every resemblance to the catamenia, which had made its appearance several months before. I was at once struck with her appearance, for so tall and stout was her form, and in every respect so matured, that I felt some difficulty in believing the correctness of her mother's statement that she was then scarcely more than 5 years of age. On inquiry, I was informed that she was at birth an unusually large child, and grew rapidly; some time before she attained the age of 3 her breasts were observed to be unusually large; before she was 5 years old, however, they underwent a still more rapid enlargement; the pudendum acquired greater fulness, and the catamenia made their appearance, since which time they had continued regularly to recur; the breasts were then very fully developed; and the mons and labia, though without hair, much more tumid than is natural in a child of her age.

She is now 7 years of age; her form is that of a full-grown woman; being broad across the breast and pelvis; and her limbs full and rounded. Her face—more especially the lower part—is large, and her look heavy and childish: she measures in height 4 feet 3¼, and round the chest 29 inches; her weight is 72 lb. avoirdupois. Her teeth are all of the temporary set, with the exception of her having not long since cut the first permanent molares, and changed the two central incisors of the lower jaw. Her breasts exceed the usual size of those organs in unmarried adults; the gland is large and firm, and they possess the erected nipple, and in some degree the dark areola, of the pregnant state; the mons is very prominent, and presents a considerable growth of hair. Her mother states, that since I first saw her the catamenia have regularly appeared at intervals, usually of a month,—occasionally of three weeks;—continuing profusely during two days, and partially during two others;—nor can the secretion be in any way distinguished either by its quality or amount from that of other females;—at the periods the under eye-lids acquire the dark hue, and she experiences the lumbar pains ordinarily attendant—indeed, she exhibits every sign of one in whom the function has naturally become established, and her

general appearance is fully that of a girl of 13. From her only sister, who is now 14, and in whom the catamenia have not yet appeared, she seems to differ only a year or two in age, and is much more womanly in form.

With regard to her intellectual faculties, her appearance would by no means augur favourably;—her school mistress, however, states that, while by no means clever, she can be made to acquire a fair share of knowledge;—she sews well, and reads tolerably, for a girl of 7 years of age;—in her amusements she is as childish as the other children in the school. Her mother informs me she is averse to any allusion being made to her peculiarity by any of her own sex, and displays a degree of modesty in her conduct towards males unusual in children of her age.

My attention having been attracted to this subject by the above case, I have been induced to search the authorities within my reach for further information, and have thus collected several extraordinary instances of precocity.

These would appear to arrange themselves into three classes, according to the periods from birth at which the organs dedicated to the generative functions have become developed. In the first set of cases these organs have then been found either preternaturally advanced, or the rest of the body having attained an unusual degree of perfection, they have soon displayed a premature development. Such is the case of Dr. Ledseau, of New Orleans, in the 11th volume of the Medical Gazette, in which at birth the mammæ were found perfectly formed, and the mons covered with hair;—the catamenia presenting themselves at the age of 3. The case of Dr. Wall, Med. Chir. Trans. vol. 2, in which the catamenia appeared at nine months, and the breasts at eighteen months were as large as in a girl of 18. Such also are the two cases in the 1st and 12th vols. of the same work; in the former, detailed by Mr. Whyte, the boy, Philip Howorth, had at birth the head covered with hair, and the sutures firmly closed; at twelve months hair appeared on the pubes, and the penis and testes enlarged, till, at three years, they were as large as those of an adult. In the latter, for which we are indebted to Mr. South, the sutures were very open at birth; at four months hair begun to grow on the pubes; soon after he completed his first year he had emissions, and at $3\frac{1}{2}$ his organs were fully developed.

In this class, also, should probably be arranged the case by M. Breschet, in the 11th volume of the Med. Chir. Trans., in which all the signs of puberty were present in a boy of 3 years of age.

The second class of cases are those in which the children, when born, present nothing remarkable, but about the ages of 3 or 5 the sexual organs undergo a hasty development, and the signs of puberty make their appearance.

Of these one of the most remarkable cases recorded is that detailed by Sir Astley Cooper in the 4th vol. Med. Chir. Trans. At 3 the menstrual discharge was first noticed, and it recurred again in five or six months, and then returned several times at intervals of five weeks; at the age of 7 it was found to observe regular periods of three weeks; the breasts at $4\frac{1}{2}$ years were as large as in a young woman of 20.

Dr. Cookson has detailed the case of a girl, in the Medical and Physical Journal, vol. 25, in whom the first appearance of the catamenia was at the age of 32; they at first recurred irregularly, but had since returned every four or five weeks.

In the Midland Medical Reporter, vol. 1, the case of a boy is related by Dr. Burn, who, though a small child at birth, at seven or eight months was observed to have the sexual organs unusually large; and at $4\frac{1}{2}$ they equalled those of a lad of 17.

The intellectual faculties do not appear, in the majority of cases, to have shown that degree of advancement which their precocity in other respects might have rendered probable.

Thus M. Ledseau's and Dr. Cookson's cases did not differ from other children. Dr. Wall's was perfectly infantile, and Dr. Burn's was deficient in intellect, and could only talk very imperfectly at the age of $4\frac{1}{2}$: the boy mentioned by M. Breschet had a good memory, but his judgment was not more advanced than that of other children, nor was his imagination unusually vivid. Philip Howorth, however, and the boy referred to by Mr. South, possessed more acuteness than most children of this age; the former, when 3 years old, being fully equal to a boy of 6, and the latter, though his look was puerile, and he amused himself as other children, being

very intelligent and inquisitive; the little girl of whom Sir A. Cooper has given us an account, when he first saw her did not differ from other children, but at the age of 7 showed a very unusual degree of modesty.

In all the instances in which the sexual organs have been prematurely perfected the children are stated to have been unusually large. Philip Howorth at the age of $3\frac{1}{2}$ was 3 feet $4\frac{1}{2}$ inches in height, and weighed $51\frac{1}{4}$ lbs., and exactly resembled the Farnese Hercules; and Dr. Burn has made a similar remark in reference to his case; at the same age Mr. South's boy could lift half a hundred weight with one hand; he was 3 feet 7 inches high, and weighed 64 lbs.; his figure exactly resembled that of a grown man, excepting that it was broader across the hips than the chest. Dr. Cookson's case was a little woman; and M. Ledseau's at $4\frac{1}{2}$ years was $42\frac{1}{2}$ French inches in height, and stout in proportion. M. Breschet's at 3 years of age weighed 50 lbs., and measured 3 feet $6\frac{3}{4}$ inches in height, with form proportionately vigorous.

Dr. Burn states that in his case the portion of brain posterior to a plane passing through the meatus auditorius greatly exceeded that anterior to it, and that the cerebellum was larger than that of ordinary adults; the large size of the cerebellum was also noticed by Mr. South and by Spurzheim in the case related by M. Breschet; the girl, whose case I have reported above, has certainly the posterior portion of brain large, but not remarkably so. This consideration possesses much interest, as bearing upon the speculations of phrenologists.

In most of the cases it is mentioned that the teeth made their appearance at an early period, advanced rapidly, and were as quickly changed; in several instances the child's health was much impaired with the commencement of the change, but was recovered when the functions were completely established. Dr. Wall's case seems to have been entirely the result of disease.

It is an interesting query how far it is possible for the female to become impregnated at the early period at which, in some of the above cases, the catamenia appeared. Dr. Cookson thinks such might be the case in the instance he has recorded; and M. Ledseau conceived that the girl mentioned by him might give birth to children at the age of 8. I have not, however, met with any positive information on the subject; in the Med. and Physic. Journ. vol. 24th, some extracts are given from a work by Dr. Dickson, in which reference is made to a statement by Dr. Somme, in a collection of cases published at Paris in 1761, of a girl who menstruated at 2, being delivered of a dead child at 8 years and 10 months; and Dr. Thomson, in his lectures on Medical Jurisprudence, Lancet, 1836-7, mentions, that Billaud relates the case of a woman who stated herself to have been impregnated by a boy of 10 years old, whose precocity he ascribes to his having mixed in the turmoil of the revolution.

The third class of cases, or those in which the catamenia anticipate by 3 or 4 years their usual period of appearance, offer a much lower degree of interest; since those in whom it is observed are usually either confined to the crowded factories of our manufacturing districts, or to the closeness of metropolitan boarding schools, where the heated atmosphere to which they are exposed must make their constitutions nearly allied to those of the natives of warmer climates, with whom the ages of 10 or 11 are the usual periods at which puberty is developed.

ON THE OBTAINANCE OF CERTAIN PHYSICAL LAWS IN THE ANIMAL ECONOMY.

No. II.

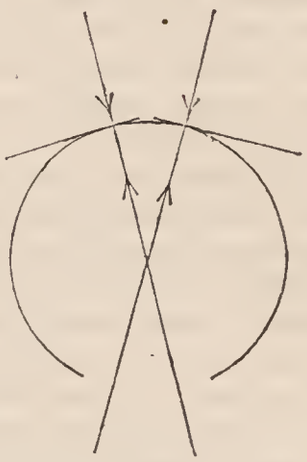
To the Editor of the Medical Gazette.

SIR,

I WOULD venture to suggest the hypothesis, that erect vision depends upon the obtainance of a physical law. Outline, as far as the eye alone is concerned, may be considered merely as a contrast of colours; and if the mind, through the retina, recognizes the number of vibrations per second upon which the endless varieties of colour are said to depend, it will not be inconsistent to suppose, that the direction in which those vibrations impinge upon the eye admits of a mechanical effect which may be demonstrated by mathematical science. What the mind is, what the

nature of its connexion with the body, and how it is influenced by matter, seem to be among those hidden mysteries which will remain impenetrable so long as we see "through a glass darkly;" but still we have sufficient evidence to render it not improbable that the mind becomes cognizant of the different forms and properties of matter, not by the simple impression produced by them upon the organs of sense, but by the reaction of those organs upon the impression produced.

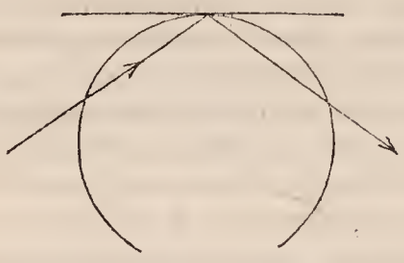
"Perception, its primary act, is for the most part passive, and is exercised about our ideas, whether they spring from sensation or reflection, the originals of all our knowledge." Those ideas are produced by the qualities of bodies which affect the senses; and as it is impossible that at one and the same time the same quality should differ (inasmuch as "it is impossible for the same thing to be and not to be") so we must conclude that the variation of its impression upon the sensorium of two different persons must arise from a difference in the reaction of the sentient organs of those individuals. That flavour which is agreeable to my palate may nauseate my neighbour—the perfume which delights one may disgust another. Some cannot distinguish the diversity of colours which the generality of men perceive, and in which some peculiar tint predominates—the capabilities of hearing the different degrees of pitch at the two extremes of musical sounds varies in different individuals. Professor Mayo, in speaking of heat, cold, and the varieties of touch, says, "like other sensations, these again essentially depend, not merely upon the present impression, but upon the condition of the sentient organ (*Outlines of Physiology*). The apparent paradox of feeling the same fluid hot and cold at the same time, from having previously immersed the thumb and fore finger, the one in warmer, the other in colder liquid, well illustrates this. We may therefore conclude, that the organ of sense must possess the capacity not merely of receiving, but also of responding to, or of reacting upon the impression produced; and that it is very probable that the reaction forms the subject of the mind's operation. Grant this, and it may be shown that erect vision depends upon the same principle as the law, that the angle of reflection must be equal to the angle of incidence. For if a straight line be drawn through the centre of the pupil to the dark point in the foramen of Soëmmering where the axis of direct vision intersects the back of the eye, it will pass through the centres of the two arcs of the crystalline lens and of the globe of the eye itself. Now, from the nature of the lens, there must be a point in this line through which all the rays of light must pass previously to being impicted on the retina; the latitudinal aberration regulating the form and size of the impression, and the longitudinal aberration being the distance from the focus at which they pass; and this distance is the centre of that sphere of which the expanded retina forms a portion. This is shewn by the perfect stability of the image when seen by different points of the retina, the eyeball alone being moved, and hence "the centre of visible direction is a fixed point in the vitreous humour, and as it never changes its place during the rotation of the eyeball, it must be coincident with the centre round which that rotation is performed." But as all the rays must pass through this centre, they must consequently fall perpendicularly to the retina; *i. e.* to the tangents of the points upon which they



fall (*see diagram*); and the angle of reflexion must be equal to the angle of incidence: in other words, the direction of the reaction of the retina is in a line exactly opposite to that in which the rays impinged. And if of this reaction we assume that the mind takes cognizance, it follows that an inverted image will be seen in an erect position.

But the obtainance of this law is further proved by the direction of the luminous spectra occasioned by pressure on the eyeball; for if a line representing this force do not pass through the centre of the sphere, it cannot fall perpendicu-

larly to its tangent, and therefore the reaction of the retina will not be exerted along the opposite direction of the same line, but it will vary, so as to form the spectrum at an angle equal to that at which the pressure is applied. Experience proves the fact to coincide with this theory.



CHAS. FERNELEY.

Denton, near Grantham,
10th Dec. 1839.

EXTRACT FROM A COMMUNICATION
ON THE
NERVES OF THE KNEE JOINT,

Read before the Medical Society of University College, December 13th, 1839,

BY G. VINER ELLIS.

[*For the London Medical Gazette.*]

WE shall divide the articular nerves of the knee-joint into those from the internal and external poplitieal nerves in the poplitial space; and with those from the anterior crural, obturator, and anterior tibial nerves, which are situated around the articulation.

The popliteal nerves, the largest of those in the region of the knee-joint, give the greatest number of branches to the articulation. We have found one accompanying each articular branch of the popliteal artery, and which, to avoid new names, we purpose to designate by the same appellation of internal and external articular, there being a superior and inferior on either side, as well as a posterior one with the azygos artery: from the external popliteal (peroneal) or sciatic, come both external articular, and from the internal popliteal both internal and posterior articular nerves.*

The superior external articular nerve, usually a branch of the great sciatic beneath the hamstring muscles, arises from the external popliteal (peroneal) in those instances in which this nerve divides into two whilst passing from the pelvis, or very soon after. The small nerve descends under cover of the biceps muscle, lying deep in the popliteal space, and close against the outer boundary, and a little above the outer condyle of the femur it leaves the space by passing beneath the biceps, comes into contact with the artery of the same name, perforates the external inter-muscular septum of the thigh with it, and in front of the femur, beneath the vastus internus muscle and close to the bone, it divides into branches, the greater number of which descend to supply the synovial membrane of the articulation: one long branch turns forward to the front of the lower end of the femur, and distributes filaments downwards to the synovial membrane and the lower extremity of the femur. The inferior external articular, also a long nerve, varies in its origin as the other, and if the division of the sciatic nerve into internal and external popliteal be low in the popliteal space, it may come from the sciatic instead of from the external popliteal nerve; it lies also internal to the biceps muscle, but extends lower down than the superior external, and placed between the tendon of the biceps, and outer head of the gastrocnemius muscle, it passes from the popliteal space beneath the tendon of the biceps, and below the level of the head of the femur, to reach its corresponding artery: on the outer side of the articulation the nerve divides into many branches, which extend forward with the artery, perforate the fibrous capsule, and supply the synovial membrane.

These nerves appear, after the dissection of the popliteal space, much longer than they did before the removal of the cellular membrane: the superior is the larger of the two. The superior internal articular nerve, a branch of the internal popliteal above the inner condyle of the femur, descends at first on the outer side of the popliteal vessels, passes beneath these, and, appearing on their inner side, turns with the artery of the same name to the front of the femur, through the tendon of the adductor magnus muscle; and it divides, between the vastus internus, into many filaments, which are distributed to the inner side

* One articular branch from each popliteal nerve has been described by Boyer, in his "Traité complet d'Anatomie;" by Bichat, in his Traité d'Anatomie descriptive; by Meckel, in the "Manuel d'Anatomie générale." The same two nerves have been noticed by Swan, in his "Demonstration of the Nerves of the Human Body;" and by Cruveilhier, in his "Anatomic descriptive."

of the synovial membrane and the articulation. The size of this branch varies much: when it is large, it gives filaments to the popliteal vessels as it passes beneath them, as well as to the back of the joint. This nerve may arise above the bifurcation of the sciatic.

The inferior internal articular, the largest of the branches to the knee-joint, arises also from the internal popliteal above the articulation, either by a separate trunk, or by one united at intervals to the popliteal nerve. It descends in the space external to the vessels, and opposite the centre of the articulation it passes beneath them, to reach, by an oblique course, the inferior internal articular artery. The branch is now placed with the artery, on the popliteus muscle, and beneath the process of fascia from the semi-membranosus muscle, and continues forward with it beneath the internal lateral ligament of the knee-joint. It then turns round the inner and upper part of the tibia, but below its inner tuberosity; and the continuation of the nerve can be followed, after perforating the capsule of the articulation, outward towards the patella, lying along the line of reflection of the synovial membrane from the head of the tibia, and supplying this membrane. As the nerve passes between the joint and the vessels, it gives branches to the articulation; and these enter it by perforating the posterior ligaments with the filaments of the superior internal articular.

The two internal articular, as well as the posterior, to be described, will be found, in dissecting the popliteal space, to be situated external to the popliteal vessels, before passing beneath them.

The posterior articular, sometimes a separate branch from the internal popliteal, runs downward to the back of the articulation, perforates the posterior ligament, and is distributed to the articulation. When this is not a separate nerve, the branches that enter the posterior part of the joint are usually filaments from the superior and inferior internal articular. I have not been able to follow the branch from this nerve to the popliteus muscle, as stated by Cruveilhier.

The recurrent articular nerve*, so named from the anterior recurrent artery of the anterior tibial, is a branch of the external popliteal beneath the peroneus longus muscle, or from the anterior tibial nerve; the small nerve continues forward beneath the extensor digitorum longus muscle, perforates with the artery the tibialis anticus muscle, and become superficial, ascends to supply the head of the tibia, enters the capsule, and is distributed to the lower and outer part of the articulation.

The anterior crural nerve supplies, for the most part, the articular nerves to the front of the joint, from some of its muscular branches; but they are not so numerous as those from the popliteal nerves.*

The articular nerve from the branch to the vastus externus descends in the substance of the muscle with the long descending branch of the external circumflex artery, becomes superficial below at the tendon of insertion of the muscle, then descends over the outer part of the articulation, supplies the capsule and articulation on the outer side of the patella, and sends some filaments in front of this bone.

The other articular nerve from the branch of the anterior crural to the vastus internus, is a long nerve, larger than the preceding, and quits the branch to the vastus when this enters the muscle. The articular nerve then descends on the surface of the vastus, external to the femoral artery, and divides about the lower third of the thigh into two branches: one enters the substance of the vastus, and may be traced in it to the articulation: the other applied against the internal inter-muscular septum, runs along it to the knee, with the large anterior or deep branch of the anastomotic artery, and, giving filaments to the capsule and front of the patella, it perforates the inner and front part of the capsule of the knee-joint near the head of the tibia, or over the internal inter-articular cartilage; it is then directed outward behind the ligament of the patella with a small arterial arch, and distributes filaments to the cellular structure and synovial membrane. This nerve is occasionally joined near the

* This nerve is referred to by Boyer, Bichat, and afterwards by Cloquet, Swan, and Cruveilhier, in the works before quoted.

* Bichat does not mention any articular branch from this nerve. Meckel notices one from the external or muscular set of branches of this nerve: Swan does not refer to any, and Cruveilhier describes one articular nerve from the branch to the vastus internus, and one from the saphenus; this last we have dissected only as a very rare occurrence.

knee by a branch from the obturator nerve.

The obturator nerve is the last giving an articular nerve that we have to consider, and its nerve to the articulation is direct from the trunk of the nerve in the popliteal space, and therefore Thomson has said it is probable that "it is in part a nerve of sensation, and furnishes the well-known sympathies between the knee and hip-joint, and between these joints and the skin," Previously to the dissection of this nerve* by the late Dr. Alexander Thomson, the explanation of the supposed sympathy between the two joints was attributed to the junction of a branch of the obturator with the internal or long saphenus close to its origin from the anterior crural nerve, and in the upper third of the thigh. We have never seen this junction, although we have looked for it carefully, but we have repeatedly seen the junction of the obturator with the saphenus, (Cruveilhier,) as well as with the anterior or cutaneous branch of the long saphenus to the integument over the knee. Even if the obturator joined the long saphenus it could scarcely explain the symptom of pain being felt in the knee in affections of the hip-joint, because we are not acquainted with any branch of the saphenus which is distributed to this articulation. The articular nerve of the obturator is a branch from the posterior division of this nerve, or from that division of it between the adductor brevis and magnus; it is a long slender branch, which runs outward toward the linea aspera of the femur, and beneath the adductor brevis. About the lower third of the adductor magnus it enters between its fibres, apparently ending in it; but, if it be traced through these, it will be seen either to perforate the insertion of the muscle, to join the outer part of the popliteal artery in the popliteal space, or it again appears on the anterior surface of the adductor magnus above the opening for the artery, comes into contact with the femoral artery, which it accompanies through the opening into the popliteal space; the nerve then ramifies on the popliteal artery, and gives off an internal branch, to perforate the posterior ligament of the articulation, to be distributed to the synovial membrane. The continuation of the nerve closely surrounds the popliteal vessels, sending minute filaments to the coats of the branches of these vessels. Thomson describes it as sending branches on the posterior tibial and peroneal arteries, as low as to where the middle meets the lower third of the leg, and he says, "It would appear to perform to the vessels the function of the sympathetic nerve, and perhaps may do the same to the skin."

In our own dissections we have followed this nerve into the popliteal space, but we have not had sufficient experience to decide, with certainty, the distribution or extent of the nerve. This branch cannot be always followed to the popliteal space.

* See Nos. 93, 94, and 95 of the London Medical and Surgical Journal.

CASE OF CEREBRAL EFFUSION, FROM DENTAL IRRITATION.

By John Renton, M.D.,

Licentiate of the Royal College of Surgeons, Edinburgh.

[*For the Medical Gazette.*]

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Determination of blood to the head, from excited arterial action, and consequent derangement of the cerebral circulation, are the usually described effects produced on the brain, by protracted and difficult dentition.

Affections of that organ, and its investing membrane, arising from such a source, and terminating in dangerous structural lesions, must either be of rare occurrence, or they have not received that attention which their importance demands.

Among the French authorities, Gardien is one of the few, who has described "l'Assenpissement" in the class of "Maladies excitées par le travail de la dentition." "L'assoupissement est un symptôme redoutable qui a lieu chez les enfans les plus robustes, sujets à une constipation opiniâtre; il n'existe dans les commencemens, qu'une propension au sommeil, lenteur, inaction dans les mouvemens, cependant si on n'y remedie pas promptment, cet etat, qui ne paroit pas inquietant, se change bientôt en coma: la face se gonfle, devient rouge, violette; la respiration est difficile; les yeux, les paupières se tumefient."—*Gardien, Traité complet d'Accouchement*, tome iv. p. 239. Gardien considers that the cerebral compression produces "une paralysie momentanée

du système abdominal," and if it continues, that it greatly resembles, "l'apoplexie sanguine des adultes."

Dewees, in his valuable "treatise on the Physical and Medical Treatment of Children," has devoted two chapters to dentition, and the diseases arising from it. He states, generally, that "the act of teething may create much mischief by its operation upon both the nervous and sanguiferous systems,"—(page 341), but he has omitted altogether to consider the effects of vascular congestion and derangement on the cerebral functions. His omission on this point is the more remarkable, that it is so much at variance with the correct and minute analysis, to which every matter of enquiry was subjected, that engaged his comprehensive and searching mind.

Dr. Davies, in his Obstetric Medicine, refers the morbid symptoms induced by teething to, 1st, those of local irritation; and 2ndly, those of the general system. "The symptoms of local irritation are inflammation and swelling of the gums, with increased secretion of saliva. The affections of the general system are, eruptions of the skin, wasting of the flesh, cough, diarrhœa, vomiting, ophthalmia and convulsions."—(p. 1233). He is of opinion, that much of the danger of dentition depends upon an accompanying torpid state of the hepatic system, and adds, that "spasmodic affections of the larynx and trachea, which not unfrequently accompany dentition, are too frequently entrusted to trifling, and temporising treatment." I believe with Gardien, in opposition to the view of Dr. Davies, that the torpid state of the hepatic system is much more frequently an effect of cerebral congestion than a primary cause of dangerous disease, to the teething patient. The remark of Hippocrates, that children who are loose in their bowels, cut their teeth most safely, in some measure corroborates this view. I have very often seen apparently alarming symptoms of spasmodic croup, but never one fatal case of it, which occurred during dentition. The croup, under these circumstances, is of a totally different character from the acute inflammatory croup, to which the children of some families are more predisposed than others, but to attacks of which all children are more or less liable, who live in localities exposed to the influence of the peculiar condition of the atmosphere, on which the epidemic character of the disease seems occasionally to depend. During the prevalence of an easterly wind, I have known ten out of twelve children residing along the banks of rivers where the noxious fog extended, carried off, in spite of the most early adopted and actively pursued antiphlogistic treatment. In spasmodic croup symptomatic of dentition, my experience coincides with that of Dewees, that, if croupy symptoms appear when a tooth is about to be cut, these cease when the gums are scarified, or the tooth comes through.

With the exception of the caution which Dr. Davies enjoins, (if the cephalic symptoms continue to threaten, after the gums have been properly lanced), to have recourse to bleeding by leeches and cupping-glasses, and the application of a largish crescental blister behind one or both ears, he makes no remarks on the dangerous consequences of protracted dental irritation on the cerebral circulation, and on the necessity of guarding against the invasion of structural disease from such a cause.

Dr. Burns points out, in addition to the two indications just mentioned, a third, which is, to support the strength. He recommends, if the child be plethoric and heavy, a smart purge, and the application of leeches to the forehead; and if the determination to the head continue, that the scalp should be shaved, and a small blister laid upon the occiput. "It ought never to be forgotten," he adds, "that as the irritation of the third branch (of nerves) of the fifth pair, causes more or less excitement of the base of the encephalon, we should, if the symptoms be acute, detract blood, and apply a blister to the back of the head, nor are we to be rash in healing that blister."—(*Principles of Midwifery*, p. 623.) These remarks, it is obvious, apply more especially to irritation of the nervous system, upon which convulsions during dentition generally depend, (particularly in those children predisposed to their attack by hereditary constitution), than to inflammatory action set up within the head from excited circulation, giving rise to fatal disorganizations.

Dr. Gooch, in the chapter on disorders connected with dentition, merely alludes to irritation of the brain occurring during that period, as the cause of

convulsions. He describes, in two different places, "chronic, bronchial, or pulmonic inflammation, as not unfrequently excited by the local irritation of teething, which resists all the common remedies," but never once hints at the possibility of the occurrence of a similar morbid condition of the substance of the cerebrum itself—an effect to be apprehended from the proximity of the organ to the exciting cause, and one which must of necessity have often occurred, had it not been counteracted by the peculiarities of the cerebral circulation. Clutterbuck has very correctly described this, when he says, that any violent impulse of blood, as derived from the heart, is prevented from disturbing the proper functions of the brain, by the bony and tortuous canals, through which the arteries enter the skull, the anastomoses which take place within, and the minute subdivisions and ramifications which the arteries subsequently undergo, before they arrive at, and are distributed throughout the cerebral substance. The account which Dr. Gooch gives of chronic diarrhœa, "which," he states, "sometimes comes on during the progress of dentition," is very correct and full, and his observations on the management of that obstinate complaint are very judicious; yet it is rather remarkable, that he should never have been led by analogy to infer, especially in those cases in which "the head symptoms continue inveterate," that increased secretion from the serous surface of the cerebral membranes might be produced by the same cause which excites and keeps up the discharge from the mucous or lining membrane of the intestinal canal. With the exception of his recommendation of the use of emetics, which for obvious reasons are inadmissible in affections of the brain originating in excited arterial action, his advice cannot be too strongly impressed on the minds of young practitioners. "In the treatment of those affections," (irritation of the brain and chronic pulmonary inflammation) "when they appear to be induced by teething, there is one general aphorism,—use the same remedies in either case, as would be indicated under similar circumstances, when the disease arises from other causes, but *in addition*, take care to let the tooth through as soon as you can."—(*Practical Compendium of Midwifery*, page 328.)

The system during dentition being disposed to inflammation, Underwood justly remarks, that, "lusty strong children much oftener fall into fever than the weak and delicate." His indications of treatment are, "to assist the irruption of the teeth, and to moderate the inflammatory and other symptoms which must be treated according to their kind; all parts of the body readily consenting with the gums, at the time of teething, but the nerves, the bowels, and the lungs, more particularly and importantly than the rest."—(Diseases of Children, page 225.) Although he does not name cerebral in the list of sympathetic dental diseases, yet what he says in reference to the lungs, as one of the organs on which the irritation from teething is apt to fall, so appositely applies to the brain when it is secondarily affected, that I may be excused in quoting his observations; "when the irritation is fixed," he says, "a precise acquaintance with the true cause of the symptoms is of the greatest importance; or for the want of it, an unsuccessful plan of cure will be adopted. I speak this from much experience, having known good physicians overlook the true cause of the inflammatory symptoms," p. 227.

The morbid phenomena so often witnessed during dentition, according to Drs. Evanson and Maunsell, (Practical Treatise on Diseases of Children) are influenced, 1stly, by the degree of irritation; and 2ndly, by the susceptibility of the constitution. Determination of blood extends to, and engages the head, which becomes hot and heavy, the cheeks red and swollen, and the eyes suffused and watery; these symptoms, if they continue, should not be overlooked. By carefully watching their progress, we will be enabled to form a correct diagnosis between mere nervous disturbance of organs, and inflammatory affections. Symptomatic disturbance of the brain ought in no case to be neglected, for under such circumstances, if in addition to attacks of convulsions, the child awakes suddenly out of sleep, and screams, and looks frightened, Drs. E. and M. have more than once witnessed an incurable paralysis as the result, or death to take place suddenly, as if from apoplexy. In their extensive practice they do not seem to have met with any case similar to the one which

is the subject of the present communication.

Dr. Joy (Cyclopedia of Pract. Med. art. Dentition) enumerates among the many disorders accompanying dentition, "affections of the brain," which he says "may occur in every degree, from a slight and passing determination of blood to those organs, up to the most violent irritation, congestion, and even inflammation." The history of this case strongly corroborates this view of the injurious and fatal effects of irritation from teething, on the cerebral organs.

M. A. R. aged two years and a half, died on the 16th November, 1839, of a complaint which had continued upwards of ten months. When she was weaned at the usual period, she was very robust and plethoric, and until the fourteenth month, when the incisors began to appear, had never experienced an hour's illness. The cutting of these teeth was accompanied with much local pain, and frequent febrile attacks, but she got well over their irruption, by the use of occasional doses of calomel, and by repeated scarifications of the gums. Her health continued undisturbed until January, at which time the anterior molares, in the lower jaw, felt on examination unusually large. The gum was hard, dry, and stretched, without elevation, like a band over the teeth, which did not point upwards, but seemed to undergo lateral development. As the gums were neither hot, red, nor swollen, I apprehended that the frequent violent attacks of pain which the child suffered, depended either on the disproportion between the rate of development of the teeth, and of the alveolar septa, or on the consolidation of two or more teeth into one mass, and therefore had not recourse to scarifications. If a similar case should occur to me, in place of lancing the gums I would prefer removing a square portion of it, and of the investing membrane, which appear to bind down the confined teeth.

As I went abroad in February, and did not return until May, the child was put under the care of my very intelligent friend, Dr. Madden, who did every thing that art could suggest. He told me he had never seen a child teeth with so much pain and irritative fever. She would frequently awaken from a sound sleep, and scream for an hour or two. The paroxysms of fever were accompanied with intense flushing of the face, rapid motion of the lips, increased heat over the head, and excited arterial action. There never had been either intolerance of light, delirium, coma, somnolency, convulsions, or muscular contractions. As usually happens in difficult dentition, there was rarely increased salivary secretion, or discharge from the mucous intestinal membrane. On my return I found the child greatly reduced in strength. Along with depression of spirits, there was an expression of much anxiety. The hair was unusually bristly and wiry. Although emaciation had extended over the whole body, it had made very marked inroads upon the face and temples, the muscles of which having been greatly absorbed, the facies senilis became a prominent symptom. There was considerable abdominal tumefaction, and the bowels were in a very constipated state, and not easily acted upon by purgative medicines. The other symptoms deserving of notice were intense thirst, a variable voracious appetite, and inveterate irritability of stomach. Every article of food was soon vomited, and seldom remained so long as two hours in the stomach. After vomiting, there succeeded general torpor, with a decrease of the animal heat. Milk was always returned in a curdled state. She had latterly the look of terror, and the small wailing cry, so peculiar to cerebral complaints. She looked as if she had been cowed by the boisterous temper of the nursery-maid.

No alteration in the sypmtoms occurred until she died, if we except the occurrence of occasional contractions of the flexor tendons of the left hand and foot, the thumb of the former being turned towards the palm of the hand. The right side of the body had similar, but not so severe attacks. Warm frictions generally removed them. There was slight cough for the last three months. The motions were generally white, from the admixture of milk, which was the article of food upon which she usually lived. They were not unfrequently very fœtid, and there was generally great deficiency of the biliary secretion. Vomiting and enlargement of the abdomen continued to the last. The exacerbations and remissions of the febrile attacks were remarkably sudden and severe, and were generally induced by improper articles of food, which, increasing the cerebral congestion, had,

upon two very marked occasions, several months before she died, nearly put an unexpected termination to the little patient's sufferings. Death seemed to be the consequence of exhaustion. Her intellectual faculties continued unimpaired, and none of the senses were in the slightest degree affected.

The following morbid appearances were furnished me by my friends, Drs. M'Lagan, and his son, Dr. A. D. M'Lagan, who opened the body, but they had never seen the case.

The whole body was much emaciated. The abdomen was the part first examined. The stomach and bowels were all considerably distended by gases. The stomach was large for a child of this age; there was a slight hourglass contraction at the centre. The mucous membrane was healthy throughout. The intestines presented nothing abnormal, and though examined throughout the whole length of the canal, no appearance of inflammation or ulceration could be detected. The mesenteric glands were healthy; few of them were larger in superficial extent than a coffee-bean, and they were of the natural thickness, and though several were cut across, none of them contained any cheesy or tubercular matter. The liver was healthy in size and texture. The gall-bladder of natural size; the ducts were pervious. The contents of the gall-bladder were a glairy fluid, slightly tinged yellow, but no further appearance of bile. The heart and lungs were healthy: a very little serum was found in the pleural cavities.

On opening the head, which was of natural size and appearance, there issued a large quantity of serum, which, on being collected, amounted to ten or eleven ounces. Part of this issued from the spinal canal. The pia matter was universally injected of a bright red colour, the vessels being large and very distinct. The red points on making a section of the brain were more large and numerous than in a healthy brain, but otherwise this organ was sound; there was a slight softish feeling and appearance of the corpora striata, as if they had been steeped in water for some hours, but there was not more than three drachms of serum in both lateral ventricles. There was no effusion of lymph or pus any where within the head, and the dura mater was not thicker or more adherent than usual. The mouth contained the full complement of teeth; the gum behind the last molar on the right side of the lower jaw was hard and prominent. On the left side it was hard but flat.

In this case there was the combination, or rather the co-operation, of two causes, on which the morbid phenomena pended:—1st, general plethora, predisposing to increased arterial action, and cerebral determination of blood; and 2dly, dental irritation, inducing an increased afflux of blood occasioned by the local excitement. The injection of the pia mater indicates the nature of the morbid action, and there cannot be a doubt that the serous effusion was the product of that inflammatory action, which (action) Billard says, is more apt to arise in children from irritation than from congestion of the brain. This case affords a very good example of the difference of cerebral disease occurring in a plump robust child, and that opposite state of the circulation in the brain dependent on a deficiency of nervous energy, giving rise to similar symptoms in a child weak and of delicate health, described by Dr. Gooch, in the chapter "Of some Symptoms in Children erroneously attributed to Congestion of the Brain." (Diseases peculiar to Women, p. 343.) At the same time, it illustrates the different form of treatment which should be adopted. I need scarcely add, that the only chance of successfully arresting the inflammatory symptoms, and preventing the fatal termination of such a case as I am describing, is in its incipient stage; by having recourse to frequent, deep, and crucial scarifications of the gums, or even excision, if necessary, of the obstructing portion of the investing membrane of the tooth, and the strict employment of the antiphlogistic system, to subdue general and local plethora. Cold applications to the head should never be neglected.

The circumstances particularly deserving notice, are—

1st. The stomach, which was much larger than usual. It does not appear that its increased size was congenital, and it was not occasioned by morbid disorganization. It was probably the effect of frequent over-distension from ingestæ, and long continued vomiting.

2dly. The head, which was of the

natural dimensions; a fact which has been observed in similar cases, in which there was considerable serous effusion.

3dly. The absence of coma, convulsions, and paralysis, confirms the opinion generally entertained, that no signs exclusively indicative of effusion seem to exist.

Many of the symptoms, particularly in the latter stage of the disease, were so obscurely developed in reference to cerebral, and were so simulative of abdominal affection, that several very eminent practitioners, who saw the patient, entertained not a doubt that she laboured under pure and uncomplicated tabes. The practical rule laid down by Dr Abercrombie, cannot be too attentively observed in similar affections—"that minute attention to the correspondence of the symptoms is of more consequence in forming a diagnosis, than any peculiar symptom."

The importance of the case, in a practical point of view, will justify me for describing so minutely its history, and the morbid appearances found upon dissection, as well as for referring to the different authors, whose opinions I have quoted, respecting the nature of cerebral affections originating in teething. The near relationship in which I stood to the little patient, naturally imparted to me a more than common interest in her suffering. But I do not think I have either said too much, or that I am unnecessarily calling professional attention to the careful investigation of similar affections, when we consider the many difficulties which accompany such inquiries, in children, from whom no precise information regarding their complaints can be obtained. The character of the disease must *at first* be rightly understood, for the light thrown by reflection on its cause, origin, and seat, can alone remove the obscurity of its subsequent history. There cannot be a doubt in my mind, that its termination, such as I have witnessed, may have often taken place in the practice of other medical men, and not been suspected, in consequence of their directing their whole attention to the sympathetic functional derangement of distant organs, and bestowing a primary consideration on secondary symptoms.

I do not feel myself competent to give an opinion on the propriety of evacuating by puncture the effused fluid. Cases are recorded, in which tapping the head has been resorted to with success. It holds out the only hope of relief. The performance of the operation is, however, attended with less difficulty than the diagnosis of the disease. But if the latter could be established by a careful and comprehensive consideration of the symptoms, I do not see that the former should be objected to, as it is most likely to prove successful, when the serous effusion has been produced, as in the present case, by morbid action confined to the pia mater and the cerebral surface, and has not originated in inflammation, nor been dependent on disorganization, of the deep-seated and central parts of the brain.

Edinburgh, 39, Northumberland-Street,
December 20, 1839.

MEDICAL GAZETTE.

Friday, January 3, 1840.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi ni publicum sit, dicendi periculum non recuso."
CICERO.

TOXICOLOGICAL MISTAKES.

It was acutely observed by Linnæus, that poisons and medicines do not differ in their qualities, but in their doses; for as the most virulent drug becomes salutary when administered by the skilful physician, so in the rude hands of the laity the mildest medicines carry death and destruction in their train. A lamentable example of this truth occurred lately in the North of England, where a girl died in consequence of having taken more than half a pound of common salt as a cure for worms. This singular fact is not unprecedented; for in September 1828 a man in London having undertaken to swallow a pound of salt with a pint of ale, performed the feat, but was seized with the symptoms of irritant poisoning, and died within twenty-four

hours. The stomach and intestines were excessively inflamed*.

These are the only instances we have met with where overdoses of common salt have proved absolutely fatal; though others are perhaps to be found in the annals of medicine, not to mention those which may have escaped registration. Dr. Stark, indeed, that sturdy experimentalist, who sacrificed his life to such an ingenious alternation of bad diets—Dr. Stark, who at one time baffled his digestive powers with olive oil, and at another with sugar, on one occasion took twelve drachms of salt a day, but left it off on Sir John Pringle's suggesting that it was the cause of the scorbutic state of his gums. Dr. Christison enumerates several other substances, which though not commonly reputed poisons, have proved so in reality. The sulphate of iron is one of these. A girl having taken an ounce in beer was seized with colic pains, vomiting, and purging, but was cured by mucilaginous and oily drinks. Another instance, which terminated fatally, is to be found in our number for the 15th of last November. In that valuable document headed 'Deaths from Poison†," one death is put down to sulphate of iron; but it is merely stated that it was taken to procure abortion, and no account is given of the symptoms.

In another case, a large quantity of pepper (from an ounce and a half to two ounces) produced a gastritis, from which, however, the patient recovered; and even Epsom salts appear to have caused death. A boy, ten years old, took two ounces, and had hardly swallowed the medicine before he was observed to stagger and become unwell; and in forty minutes more he was dead*. The dose was certainly too large; and as the boy was probably weakly (being supposed by his father to labour under worms), some hypercatharsis might reasonably have been expected; but as there was no purging or vomiting, the immediate prostration of nervous energy in this case would seem rather to have been an accidental coincidence than a result of the medicine;—yet it is just possible that in this unique case the irritability of the stomach was so exquisite that even the stimulus of Epsom salts was unbearable.

A remarkable case was given in our journal, a couple of years ago, shewing the power of another mild salt to cause or accelerate death. A man who was employed in Morison's pill manufactory, having got drunk on a Monday, endeavoured to cool his stomach the next day by taking an enormous quantity of cream of tartar, and died on the Thursday. The quantity taken is uncertain; one of the workmen said he was sure that the patient had swallowed a quarter of a pound at once, and that during the whole day he was putting lumps of cream of tartar into his mouth; while the patient himself merely said that he had swallowed four or five table-spoonfuls. This would be only four or five ounces, unless we suppose heaped measure to be intended. Both the stomach and bowels were found much inflamed. In this instance, the gastritis caused by the liquor seems to have been fatally aggravated by the bitartrate of potash; so that the unfortunate patient fell a victim to the joint action of the poison, and of what he imagined to be the antidote;—for it is clear that spirituous drinks, when not sufficiently diluted or in large quantities, must be reckoned among the poisons of which we are now speaking—among those, namely, which

* Christison on Poisoning, p. 491.

† The paper is compiled from a report entitled "returns from the Coroners of England and Wales of all inquisitions held by them during the the years 1837-8, in cases where death was found by verdict of jury, to have been caused by poison."

* Christison, p. 491.

may destroy life with rapidity, though not popularly supposed to possess this power. Among the more remarkable observations made by Dr. Beaumont, on the digestion of Martin, the Canadian hunter, he found that after hard drinking his stomach was not only inflamed but ulcerated.

Tobacco, again, is a substance which, though well known to every practitioner of physic to be poisonous, is used without caution by the public. Sometimes its dangerous powers, both acrid and narcotic, are seen when it is administered by the practical joker, as when Santeuil, the French poet, was poisoned by snuff put into his wine; and sometimes when it is given by quacks, or used as a domestic remedy. Thus Beck mentions a case where a woman, being persuaded by an empiric to use an infusion of tobacco as a clyster, to cure worms, was seized with convulsions, and died in a quarter of an hour. And Dr. Merriman informs us, in his notes on Underwood, that "a case of stupor, ending in death, occurred a few years ago, at Shoreditch, from the incautious manner in which a father washed the head of his child with a strong decoction of tobacco, for the cure of tinea."

Yet tobacco is daily smoked by countless thousands, without any immediate bad effect, except giddiness and vomiting in beginners; and this impunity makes the hasty conclude that the weed may be employed in every way, without caution; just as the use of the chloride of sodium at our tables produces the mistaken conviction that it may be harmlessly swallowed in any quantity.

Camphor is often supposed by the uninstructed to be perfectly innocuous, though a scruple is a large dose, and forty grains a dangerous one. The error possibly arises from the frequent use of camphor mixture, which smells very strongly of the drug, though it contains so little.

In the Abstract of Coroners' Inquests above mentioned, one death is set to *Hiera picra* (an aloetic powder) in gin; and one to cayenne pepper, essential oil of cayenne, and bark, taken in alcohol, as a remedy for the ague. In both these instances it it fair to suppose that the doses were excessively large; though the essential oil of cayenne would require to be doled out with a very frugal hand.

Yet all the remedies we have hitherto discussed have destroyed but few lives; for either, as in the case of common salt and cream of tartar, they can be fatal only by the most extravagant misuse; or else, as in the case of tobacco, they have fortunately been used but seldom.

But there is another class of remedies, that of opium and its preparations, where mistakes are easily fatal, yet which are constantly given without medical advice. What is the consequence? Let the Abstract answer the question. It contains an account of 543 cases of poisoning. Among these, 11 were instances where adults took an overdose of opium from ignorance, and the same number where laudanum was taken as a medicine; besides two cases where it was given for paregoric elixir; four for tincture of rhubarb; one for syrup of buckthorn, &c. But there are no less than 72 cases where children were killed by overdoses of opium or its preparations, and from its being given by mistake for other remedies. Dr. Christison speaks of the dread which the vulgar have of this remedy, and, no doubt, this is the general rule, but the exceptions are numerous. For, in the first place, doses large enough to kill adults are administered by the stupid, or the drunken; secondly, the multitude are not usually aware how small a dose of opium will extinguish the slender

flame of infant life; and thirdly, Godfrey's cordial, Dalby's carminative, and other soporific mixtures, are given to children without hesitation, and perhaps without suspicion of their being opiates. In the abstract, ten deaths are put down to over-doses of Godfrey's Cordial administered to children by mothers and nurses, besides four cases where it was given by mistake instead of syrup of rhubarb. But in addition, the coroner of Nottingham states, that "Godfrey's Cordial is given to children to a great extent; and that he has no doubt whatever that many infants are yearly destroyed in that borough, but who, dying off gradually, never came under his care officially."

If such effects are produced by the abuse of opium, what would happen if the laity were to follow the counsel sometimes offered them, and deal out the refinements of modern chemistry with their rude hands? Amateurs are advised to scatter drugs about, when, "if thou errest in the estimation of a hair, thou diest!" In truth, we would recommend even practitioners of physic, when inclined to prescribe strychnia, or veratria, to remember the advice of the College, "viribus hæc induta violentis, haud temerè adhibenda est."

Another kind of mistake in toxicology has been made in all ages; it is that of attributing poisonous qualities to substances either quite innocent, or very slightly injurious. We suppose we must class under this head the *hippomanes*, a virus supposed to distil from mares when impregnated by the wind.

Hippomanes, quod sæpe malæ legere novercæ,
Miscueruntque herbas, et non innoxia verba.*
VIRG. GEOR.

But even then, the virus by itself did not do the business; there were herbs besides (perhaps gathered in planetary hour) and most uncanny words. When an ill-starred patient had taken such a draught, and learned the incantiba which had loured over its mixing, we can easily conceive his drooping away; just as a melancholy shepherd in those times might fall into a state of marasmus on hearing that his image in wax had been bestuck with pins, and placed before the fire by some noted witch.

Sir Henry Halford remarks that the report of Hannibal's having been poisoned by drinking bullock's blood must be a fable, as well as that of the death of Themistocles, by taking a similar draught, as the blood of the bullock is not poisonous. "An accomplished nobleman told me that he was present at one of the bull-fights at Madrid, when a person rushed from the crowd, and having made his way to the bull, which the matador had just stricken, caught the blood, as it flowed from the wound, in a goblet, and drank it off before the assembly. On inquiring into the object which the poor Spaniard had in view, it appeared that the blood of a bull just slain was a popular remedy for consumptive symptoms."*

Celsus mentions human blood as a remedy which has proved successful in epilepsy; but he speaks of it with disgust.† Pounded glass, again, has been frequently given or taken as a poison, though it possesses no qualities but those of a mechanical irritant; so that in a very sensitive stomach it might produce inflammation just as any other rubbish would.

In like manner, pieces of copper money have been swallowed by persons who intended suicide. The patients, indeed, might have been choked by the coin; or its bulk might mechanically have caused ulceration of the alimentary canal; or the continual oxidation of the metal

* Hippomanes, which evil stepdames gather,
And mingle herbs, and not innoxious words.
ANON.

* Sir H. Halford's Essays. Deaths of illustrious Persons of Antiquity.

† Quidam jugulati gladiatoris calido sanguine epoto tali morbo se liberarunt; apud quos miserum auxilium tolerabile miserius malum fecit. *De Medecina*, Lib. iij. Cap. 23.

might have slowly sapped the constitution by the poison thus generated. We do not, however, recollect that any of these things occurred in the cases which have been recorded, though it seems pretty clear that the last effect must have taken place to a certain extent. Some of the symptoms experienced by the patients may be attributed to the continual formation of the salts of copper.*

The natural conclusion to which we come, is, that if in some few cases ignorance has proved bliss, by the supposed poison turning out to be harmless, in very numerous instances the want of knowledge has proved destruction.

KING'S COLLEGE.

We learn that the resignations at King's College to which we alluded last week, were produced by the following circumstances. It was supposed that the want of an hospital was a great drawback to the success of the school, in consequence of which attempts were made more than once to come to some arrangement with the one at Charing Cross; but these having failed, the workhouse of St. Clement Danes was hired for the purpose of supplying the clinical department. This having been done, a majority of the medical professors thought that Dr. Watson and Mr. Arnott ought to become officers of the new establishment, and, consequently, to resign the hospital they already had; or, failing this, to give up their respective chairs in the College The Council have heretofore been guided in all such questions by the wish of the majority, but in the present instance some demur occurred, from their unwillingness to lose the services of the gentlemen above named. Dr. Watson and Mr. Arnott, however, who had tendered their resignations in consequence of the part taken by their colleagues (some of whom had evinced considerable alacrity in looking out for successors to them), persisted in retiring; and thus, as we stated last week, "two of the most important and best filled chairs in King's College have again become vacant."!!

* A curious instance of the effect of a man's trade upon his habits is to be found in the case of an aged copper-founder mentioned by Rouelle, who used to take copper filings as a domestic remedy. This man realised one part of the old fables about the divinities of the sea, for his hair was green.

THOUGHTS ON THE COLLEGE OF SURGEONS.

Letter Second.

[*For the Medical Gazette.*]

Dear ——,

It seemed that I wronged the College in supposing that they had taken no step in the formation of the new University; as I learn from good authority (though I confess I should like to have it confirmed by the Council) that an offer was formally made on the part of the Council to the Home Minister, to take a share in its constitution, by a coalition of some kind with the other governing bodies of the profession. The proposition was at first entertained by the Minister, and afterwards declined; on what grounds does not appear. But the true version of the matter most probably is, that some unseen agent was behind the scenes, pulling the wires, by which the Minister acted his part, and was induced to reject the assistance of the College.

If this be true, it makes rather for than against my argument in respect to the unpopularity of the College. For, if the College, as a body, had been held in high esteem by the profession, the Minister could not, indeed he dared not, have treated it with so little consideration, or have rejected its offer of assistance and weight in forming a new University. And why did not the College appeal to the profession to back its application? Because it would not condescend to ask for the support of, or to act in concert with, a body, whom in its palmy days it had neglected, conscious, perhaps, that the profession would remain passive, rather than join in a contest with the Minister, in behalf of an institution in which they took no interest. It cannot be doubted, however, that if an appeal had been made by the College

to the profession, it would have been well responded to; and that, though the day of retribution was arrived, the College would not have been left to fight its battles alone. The position in which it has been placed by the University, it is to be hoped, will teach the College the wisdom as well as the justice of trusting to the support of the profession, and the best way of deserving it.

So much for the new University and the College. The points that I now wish more particularly to draw your attention to, are some of the consequences resulting from the system on which the College acts; extending as they do in every direction, and to be traced even to those remote contingencies that at first view seem to have hardly any connection with it.

The Anatomy Act of Parliament, and its ill working for the schools, is one of these consequences; and severely is it felt at present by every student and every teacher of anatomy in London. The mischievous, or rather ineffective working of this bill is to be clearly traced to the unpopularity of the College, and its consequent weakness. Carried through parliament with scarcely any opposition, because wanted alike by College, teachers, students, and the profession, it was no sooner passed, than Mr. Warburton intercepted it in its way to the dissecting-room, and clogged it with an inspector, whose office is to prevent the schools receiving that supply of *materiel* which the bill intended, and which without any inspector at all it would amply provide. The tact of Mr. Warburton was such as might be expected from a man of his keen perception, clear understanding, and deductive cast of mind. As chairman of the parliamentary committee he had dissected the profession, and knew the weakness of its joints, and the points in which it was most vulnerable. He had certain views and objects to carry, and knew that any measure, however arbitrary, could not meet with any effective opposition from the College. Instead, therefore, of allowing the College, the natural and obvious instrument for carrying out the provisions of the bill, to see them fulfilled, he places a *protegé* of his own (not even a member of the College) to superintend its operation, according to his own views and intentions. Now, neither Mr. Warburton nor Dr. Somerville are to blame in this; the one is acting according to ideal principles, (true or false is not the question,) that his philosophy persuades him are correct; and the other, influenced by five hundred equally cogent reasons, (the force of which cannot be disputed,) zealously devotes himself to his patron's views. The result is that the philosophy of these two gentlemen, if much longer persevered in, is likely to bring utter ruin on the schools of London and the profession. But what, it may be asked, has the College to do with this? I answer, that the College ought to have opposed this despotic, perhaps illegal interference with this most useful bill. By an irresistible appeal to the Minister on the part of the profession, had the College represented the profession, its voice would have been listened to with respect, and might have exerted an influence with the government that would at once have silenced the philosopher, and paralysed the mischievous arm of his inspector. The profession have a right, by the fee they pay to the College, and the examination they have undergone, to look up to the College as the guardian of its interests, if not as its representative; but they may look in vain for any effectual opposition to the will of Mr. Warburton, except from the remonstrance and united clamour of the teachers and students. The profession regards the College with distrust, as unable to make any effectual stand; the Minister looks at it with apathy, on account of its unpopularity; and the philosopher with contempt, on account of its weakness. But it is the Schools of Anatomy that suffer. It is therefore clear to a demonstration, that the College is powerless on account of its unpopularity, and that to its want of moral influence with the government of the country is to be attributed the ill working of the Anatomy Bill.

Their two last enactments on education, alluded to in my former letter, exhibit the fruits of their system. They are evidently intended as a concession to what is called the spirit of the age, (whether a good or an evil spirit I do not stop to inquire,) and to adjust their curriculum of study with that of the new University. It is true that they are compelled to this course by this new institution; and probably will be called upon, unless they make a change in their constitution, even at this eleventh hour, for more severe sacrifices, (sacri-

fices they are, and of principle too) to the necessity of standing well with the profession and the public. It seems as if they had been all along sailing against the stream of popular opinion, and now when the current is too strong for them, they suddenly turn the head of their barque round, and sail with the tide. If concessions are to be made, they should not be such as lower the standard of education for the purpose of popular conciliation, but should be directed solely by views of justice and sound policy. In their recent enactments the policy is at best doubtful, and justice bears but a small part. Now, to the point.

There are two effects of their new law that more especially bear upon my view of the matter. The abolition of apprenticeship, and the abridgement of the period of study, take the education of the young wholly out of the hands of the general practitioner, and virtually pronounce him to be unfit to train up a student as he ought to be trained, in the initiatory part of his profession. The general practitioner, if a member of the College, cannot but be sensible to this want of confidence, and will not feel the ties of affection and gratitude that bind him to the College drawn tighter by this enactment. Instead of passing the first year with a private practitioner, to gain some preliminary information, the student is at once sent to a hospital or anatomical school, to enter upon the study of the science of his profession. Whether this sacrifice of discipline to science be good, or whether it will ensure a sounder education to the student, will remain a matter of opinion. Few parents, themselves practitioners, follow this course in the education of their sons; they do not think the first year or so thrown away, if passed in the abode, and under the eye of an intelligent and conscientious practitioner. They consider that something beyond mere science is requisite to form the character of a good surgeon; and that a hospital is not the best introduction to a youth of seventeen. The law, however, will be inoperative, until the Apothecaries' Hall repeals their law of apprenticeship, and therefore hardly has the merit of sincerity.

The limitation of the period of study to four years will have an effect, probably not contemplated by the College, on the education of those intended for surgeons of hospitals. Formerly the hospital surgeon passed six years as an apprentice; latterly the period was abridged to five; and now it is limited to four; so that every student will henceforth be required to attend a hospital as long as the future hospital candidate; and, as far as education is concerned, will be placed on a level with him. Governors of hospitals will thereby have a larger number of students from whom to choose their surgeons; all being similarly educated, will reasonably expect the same chance of being elected to the hospital at which they have studied. And by this law so they ought. But, by diminishing the time of study, the College has determined that the hospital candidate of the present day shall be a less highly educated person than formerly; and thus, though the number will be greater for governors of hospitals to choose from, the candidates will certainly be of a less highly educated order. Such is the incongruous state in which the College has left this department by their late enactment, which reduces the education of all its members to one, and that the lowest level.

This incomplete legislation will require to be amended by some distinct law, to ensure a higher education for candidates for hospitals, and by instituting for them a much more severe form of examination. Unless some amendment takes place, the education of the whole profession is likely to undergo deterioration. For it is clear that the hospital candidate, according to the present law, need pass only four years in preparing himself for the important duties of his branch of surgery. And the general practitioner, while in *statu pupillari*, from the age of seventeen, has to make himself master of all the requisites for forming a finished surgeon; until at the mature age of twenty-one he is to be let loose from his school, from which he issues for the first time, to maim, mangle, or massacre, as the case may be; and to give the casuist in law and physic occasion to decide between the nice shades of natural death and manslaughter. Prophetic indeed were the words of Mr. Wakley, when he said that medical coroners were needed.

In estimating the situation and prospects of the College, it should be viewed separately, in its three different aspects —as a legislative body, as the organ of

the profession, and as a board of examiners for the diploma. For want of this discrimination, it has been subjected from without to unjust criticism and abuse, while by its success in one capacity it has deluded itself into the idea that in the other two it is equally effective.

In its first capacity, the defects of the College are manifest enough; and the cause of them equally so. The instances that have been given of their recent laws, enacted since the formation of the new University, shew that the College is guided more by a view to their own interests and position, than the welfare of the profession for which the laws are made. Their incongruity, evil tendency, and imperfection, sufficiently attest the obliquity of the principle on which they are founded; expediency, and not justice, appearing to be their guide. The College may excuse themselves, by attributing their new laws to the University, and by the necessity that compels them to this course. Such a plea is any thing but a defence of their measures: it rather serves to condemn that system by which they are forced into a dilemma that urges the passing of such laws. The College ought to be founded on so stable a basis, as would render them independent of such contingencies as a change of ministry, or the will of any set of men in temporary power. So long as the College does not represent the profession, it must remain at the mercy of the powers that are; and the profession must abide in patience the consequences of their weakness.

As the organ of the profession, its ineffective state leads to evils, injurious in the greatest degree to the members as well as to the College itself. The ill-working of the Anatomy Bill; the want of power in the College to compel the student to undergo an examination; the founding of the new University; and the threatened subversion of the power of the College, are, as I have shewn, instances of these evils, and arise wholly from the College not being considered as the representative organ of the profession. The best intentions and endeavours of individual members of the Council are of less avail than if they issued from them merely as members of the profession. Their very connection with the Council lessens the influence they would otherwise have. A distinguished member of the Council may request from the government additional power for the College, and fail to obtain it; he may ask to assist in the formation of a new University, and his overtures are disregarded; he may beg to superintend the Anatomy Bill, but in vain; and all because the Government recognises in him, not the representative of the profession, but the exclusive organ of the College. If this same distinguished surgeon were to act as the organ of the profession, and were known to represent the body of surgeons instead of the College, there is no reasonable grant that the Minister would or could refuse to such legitimate influence, backed by the whole profession. But as it is, the profession has no representative, and receives no protection. It has to seek from itself that which it ought to receive at the hands of the College—strength and protection. Associations are therefore formed over the country, and the profession finds that it can only gain strength by union. Thus, to the dislike which the profession bears to the College on account of its exclusiveness, is added a want of respect, on account of its weakness.

It is in its efficiency as an examining body that the strength of the College really lies. In this capacity it may well, as indeed it has, bid defiance to all the attacks made against this its invulnerable point. The number of students that voluntarily seek for its diploma are a proof of it, and the high and distinguished reputation of the examiners the surest pledge. A diploma conferred after a proper examination by such a body of men, cannot but be valued by a student as it ought to be. The repeated attacks upon the College have been directed against this its strong hold, and have uniformly failed; and the attempts to bring its diploma into contempt have only served to shew the superiority of the College in this its surgical character. (I have an indistinct recollection of having read some years ago of something springing up, in the shape of a rival to the College, that just lived long enough to be named, then died a natural and easy death, without suspicion of violence on the part of the College, and without a Coroner to hold an inquest over its remains. Its parent, in conceiving it, mistook the strong for the weak points of the College, and it

never arrived at maturity.) Another body of twenty-four men, possessing equal surgical attainments and exalted reputation, cannot be selected from the whole profession. The names of some are among the most distinguished in Europe; while others are known as men of science, and as gentlemen. I do not mean to say that every individual of the Council is the best that could be selected; such a compliment the council would blush to read, as I to write. But the high reputation of many of its members gives to the whole body an average far above mediocrity; just as, in some religious community, the surplus merit of a saint is carried over to the account of demerit in a sinner, and strikes a saving balance. It is to be feared, however, that a partial reliance on its strength as an examining body has betrayed it into a false and fatal security, that it is equally free from blemish in its other aspects.

It will be time enough to discuss the details, and particular policy, of opening the Council, when the College shall entertain the question as one worthy of deliberate consideration; and it is to be hoped, for the sake of the interests both of the College and of the profession, that the time is not far distant. The equalization of education for all classes of its members, pronounces them, by the dictum of the College itself, to be fit both to be members of council, and to have a vote in their election; and involves the Council in a dilemma, from which, as the law of education stands, they cannot extricate themselves. One of the most able of the members of the Council,* from whom nothing but what is judicious is to be expected, published some years since a plan of improvement, the particular features of which I do not remember. It appears to me, that no plan in which this boon is not included, will serve permanently to protect the College or the profession.

I fear that if I extend my remarks, I shall be too long for your patience, and for the courtesy of the Medical Gazette, who, I hope, will do me the favour to publish these observations.

Believe me to be, dear ——,

Your's sincerely,

C. Aston Key.

St. Helen's Place,
December 26, 1839.

* Mr. Green.

CONSIDERATIONS ON MEDICAL REFORM.

By a Professor in the School of Physic in Ireland.

(*For the London Medical Gazette.*)

It has been too much the practice to deal with the question of medical reform, and perhaps that of other reforms, without a due reference to the nature of existing evils, and without estimating how far the measures proposed were calculated to bear on them beneficially or the reverse. Accordingly some, of the plans proposed seem to be in furtherance of the detrimental part of our present system, without the adoption of the portion which experience has proved to be salutary.

The precedent of other countries has been quoted in favour of the establishment of a general Faculty of Medicine, and the union of medicine and surgery into one profession. It does not appear, however, that it can be justly adduced, except for the former purpose, the distinction of the profession being more marked in such countries than in our own. It is, indeed, difficult to assign any reason for the contrary proceeding, as the separation was the growth of time, and the result of the necessities of the community. If such a distinction was requisite a century since, when medicine and surgery taken together scarcely afforded as much scope for the human intellect as either singly does at the present day, this is surely not the time for its being relinquished, unless indeed it could be proved that the intellect of the present generation is more comprehensive than that of their predecessors, or that experience has shown in general that a union is preferable to a division of labour.

Instances have no doubt been adduced of the injurious consequences of a surgeon being "ignorant" of medicine, or a physician of surgery. But these refer to ignorance, and to ignorance alone. Either physician or surgeon may comprehend enough of the other department of the profession, to enable him to afford assistance in ordinary cases, on an emergency, to prevent improper interference, and to qualify him to make the requisite diagnosis between medical and surgical cases, without being an adept in the transcendental branches of the art, in which the aid of a consultant, to whose province they belong, is always procured. It is to be recollected that both medicine and surgery are continually accumulating growths; that a *sufficient* knowledge of either is beyond the compass of the understanding (whatever diplomas may vouch for); and that even the necessary ac-

quaintance with the other department of the profession is obtained at a sacrifice of energy which might have been profitably expended within the prescribed limits.

The Faculty ought therefore here as elsewhere to encourage the distinction between medicine and surgery, by giving a license in either, and in but one, according to the selection of the candidate. The education should be general, and also the examination, but with a preponderance towards the department in which the future licentiate is to practise. He would be thus qualified for appointments and occupation in general, and it would be for the managers of public institutions to determine, according to circumstances, whether their wants would be best attended to by the appointment of two medical officers, or one, a physician or a surgeon. The attempt to obtain what are termed "full qualifications" in both medicine and surgery, and that at a period of life such as to render little more than a smattering of even one attainable, is a source of much embarrassment to pupils, and of the deterioration of professional knowledge. No person likes to be outdone by his competitors, or that another should seem to be equally a doctor and a surgeon, while he himself has but a single qualification. Indeed the practice of the electors of public institutions, and the preference they afford to two parchments over one, without duly estimating the value of either, renders the proceeding often inevitable on the part of the candidate, if he would obtain a fair chance of an appointment. It ought to be the fundamental principle of the Faculty system, that each practitioner should be presented to the public under their sanction, as, chiefly at least, devoting himself to one department of the profession.

The license of the Faculty of the empire ought to be issued on the warrant of either of three examining boards, constituted by a selection made from the existing examining authorities in England, Scotland, and Ireland, respectively. The candidate might be educated and examined in either country according to his choice, with the proviso, however, that no part of his education should be recognised, nor any diploma or testimonials admissible in proof of his qualifications, unless obtained in a different department of the United Kingdom from that about to be the site of his examination. This precaution against the purity of the tribunal being suspected, is similar to that adopted in assigning to a newly-appointed judge, as the circuit over which he is to preside, one which had not been the site of his recent practice as an advocate.

The license of the faculty ought to be indispensable by law for all public appointments, with of course a protection to existing personal interests. Every candidate for a medical license should be required to produce a medical degree, and every surgical candidate a diploma from a College of Surgeons. The privileges of the colleges would be thus maintained.

One of the greatest evils connected with the present system of regulations, and which is more likely to be increased than diminished by the measures usually suggested, is the specification of particular degrees and diplomas as qualifications for public appointments, and of particular formal and nominal details of education as preparatory thereto. The obvious result of such a system is, that the candidate is rendered indifferent to the acquisition of information, and looks merely to the possession of those papers or parchments by which the diploma in the first instance, and the appointment in the second, may be obtained. The consequence ensues, that colleges and teachers often compete, not as to who shall do their duty best, but who shall perform it worst, and comply with the letter of the law in the manner most agreeable to the candidate.

The regulations and practice of colleges and teachers ought to be strictly scrutinized by inspectors, and the respective boards of examiners should be sworn by the Faculty to attach due weight to their reports, and the proofs of *bonâ fide* education, both in diminishing the amount and degree of the examination in each case, in proportion to the previous qualifications, and in determining their decision. It would thus be the interest of the candidate to obtain the diplomas and certificates of highest reputation, as tests of professional information, and to exceed the prescribed curricula of education; while it would also be the interest of teachers and colleges to do their duty, in order to render their testimonials valuable.

It will be said that a second examination, after obtaining a degree or diploma, would be oppressive on the candidate. It would only prove irksome when it ought; that is, when the former test had been insufficient. Besides, the interest of the public is to be taken into consideration. The trust of a practitioner is very great, and his competency is better secured by two examinations than one, since the subject is of vast extent, so that even a good answerer might be uninformed on matters of practical importance, on which the examination had not touched. As to expense, the existing defect is the cheapness of medical education, and the undue facilities afforded to entering the profes-

sion. The race of pettifoggers in law has become comparatively extinct, and the profession of an attorney has been rendered respectable and lucrative, since expense and education were rendered requisite as qualifications; so may it be with medicine and surgery.

The preceding differs from other suggestions for medical reform, in constituting three competent and yet impartial courts of equity, to judge of matters that can never be specified in legislative acts. The letter of the law often becomes a serious mischief, by opposing obstacles in the way of the conscientious, which can easily be evaded and their supposed security nullified by the unprincipled. In order that the law should be a blessing instead of a curse, a discretionary power to direct the spirit instead of the letter must be vested somewhere. The only objection to granting this power to the leading medical and surgical authorities of the kingdom, is the chance of their being interested parties, or abusing the advantages that monopoly might afford. It seems, however, that the preceding plan would meet these objections. The Faculty would have no power but that of issuing licenses according to the directions of the Boards of Examiners, and these would be a check on each other. The members having fixed salaries accruing from the fees, and having nothing to do with educations, their own candidates, or examining their own graduates or pupils, could have no inducement to be remiss in their examinations, or to afford undue facilities, while in case of severity or injustice one of the other Boards would be a court of appeal to the aggrieved party. Whatever plan of reform, however, may ultimately be adopted, it will prove inefficient, if not detrimental, unless its bearing on existing evils be calculated and arranged accordingly. To require one uniform course of education by act of parliament throughout the empire, that is, to specify the number and form of the testimonials by which that education is to be certified, would be a bonus on chicanery, and a continuation of our present system in a worse form. There ought to be a court or courts of equity to judge how far the various parties really did their duty, and to act accordingly, by imposing on the candidate who appeared to be already well educated and well examined, a comparatively trivial examination, and *vice versa*, so as to render the Faculty system supplementary to and corrective, not subversive, of existing institutions.

[The writer of the above has sent his name.—Ed. Gaz.]

CLINICAL LECTURE,

Delivered at University College Hospital,

By Samuel Cooper, Esq.

Senior Surgeon.

Compound fracture of femur—Retarded union of broken leg—Thigh-bone fractured a second time—Compound fracture of leg—Fracture of frontal bone, with emphysema, &c.

Gentlemen,—I regret to have to state that James Lyon, the particulars of whose case were explained in my last clinical lecture, died on the 19th day after the amputation of his thigh for a fracture extending into the joint, complicated with large abscesses in the limb, sloughing over the sacrum, and urgent constitutional disturbance of the hectic kind. You saw that he bore the operation well; and, at some periods after it, hopes were entertained that in the end he would have recovered. At times he was able to take eggs, jelly, wine, and malt liquor, very well; but, on other days, his appetite entirely failed; and though with the aid of one grain of hydrochlorate of morphia, given every night and morning, he obtained some favourable nights, his latter ones were decidedly bad and painful. I ascribe the fatal termination in a great measure to the progress made by the mortification of the soft parts over the sacrum, previously to the operation. His doom was also rendered more inevitable by the diarrhœa with which he was latterly attacked. You know that I would have amputated two or three days sooner, but the man did not at first give his consent. The sloughing over the sacrum had caused a foul ill-conditioned ulcer, not less than three inches and a half in diameter, the continuance of which, without any improvement after the operation, had the worst effect upon the poor man's debilitated constitution, and interfered also with every attempt of nature to bring about healthy changes in the stump itself. In fact, no union of the flaps took place; a profuse discharge of matter from the cavity of the stump ensued, and then, after five or six days, a shrivelling and retraction of the flaps, a dry and angry appearance of the edges of the incision, an absorption or destruction of most of the cellular tissue of the thigh, and even an uncovered state of the lower end of the femur.

Had the fact of the extension of the fracture into the knee been known with certainty, in the early stage of the case, which was, I believe, also originally com-

pound, for reasons explained in the last lecture, perhaps the man might have had a better chance of being saved, had the limb been sacrificed either directly after the accident, or, at all events, as soon as abscesses began to form and to spread to any extent through the limb. All my experience convinces me, that, in our anxiety to save limbs which have suffered very bad mechanical injury, the best opportunity of performing amputation is too often lost. I recommend you, gentlemen, to profit by the instruction this case affords. At the same time, I wish you to remember, that our patient had been of intemperate habits, and that these must unavoidably have had a most unfavourable influence upon the result of any treatment applied to him. It is likewise to be taken into consideration, that had it not been for the combination of the accident with an injured constitution, probably the fracture might have united, and a cure been accomplished with the knee in the state of anchylosis. In University College Museum are specimens of fracture, which united, though the fissure reached into the knee.

Gentlemen, as nearly one-third of the patients under my care in this hospital have consisted of persons, with broken bones, I avail myself of so favourable an opportunity to notice some of the most interesting points about this numerous group of cases, the observation of which has been amply within your reach. Although University College Hospital does not contain a large number of patients—not more than 130, on account of the present state of its funds—the great number of accidents brought to it every year, and the many operations annually performed in it, are too well known to the profession and public at large to require any observations from me.

Fracture of the Tibia and Fibula—Retarded Union.

Charles Arnott, æt. 39, admitted July 7, 1839. The accident occurred from a fall, when the man was in a state of intoxication. The fracture of the tibia was exceedingly oblique; the angular displacement was considerable, and the sharp end of the tibia projected against the skin, a little above the ankle. The limb was put up on M'Intyre's apparatus, and a compress applied so as to keep the bandage from pressing on the pointed extremity of the tibia.

No union having taken place, on the 7th of October the limb was first carefully bandaged, two lateral pieces of strong pasteboard applied, and then another roller, wetted with a solution of starch. The latter having dried, formed a stiff support for the broken limb, or what has been called by the French an *irremoveable apparatus*. Under the protection of this, the patient was directed to get up, and to try to walk about the ward with crutches.

On the 22d of this month the apparatus was removed, and the state of the fracture examined. The fibula is united, and the tibia is evidently uniting also; so that, in another week or two, the cure will be sufficiently advanced to enable the man to discontinue all mechanical support of the limb.

This case, besides exemplifying the usefulness of the starch-stiffened roller, and of lateral pressure on a very oblique fracture that is slow in uniting, illustrates the occasional efficiency of letting the patient get up and walk about, so as to excite more action, as it were, in the process of union, according to the maxim long ago suggested by the celebrated John Hunter.

Thigh-bone broken a second time—Fracture of the Provisional Callus.

Gentlemen, I presume that you know the interesting fact, that when a broken bone unites, an external or temporary callus is formed in the first instance around the outside of the fracture, constituting an excellent contrivance, whereby the ends of the fracture are supported, connected together, and kept steady until nature has had time to produce the permanent callus, by which the ends of the bone are to be firmly and inseparably united directly to one another. While this forms precisely between the surfaces of the fracture, the temporary or provisional callus is like a broad hoop, as it were, placed around the broken part. After having served its transient, but very important office, it is taken away, and then the strength of the bone depends entirely on the permanent or definitive callus. At the period when a surgeon usually discontinues the splints, or other apparatus, and the fracture is considered to be united, the formation of the permanent callus is scarcely begun, and the degree of firmness in the fractured part depends entirely on the temporary callus, which is never half so strong as that of later production. Hence, if the limb be exerted too violently, or too much weight be imposed upon it, or any fall take place, the temporary callus is liable to yield or break.

The case of John Kelly, æt. 24, exemplifies what I have now been explaining. He was admitted into this hospital on June 8th with an oblique fracture of the left thigh, about the middle of it, and also

a fracture of both bones of the right leg. On the 16th of August, or at the end of about nine weeks, he was discharged cured, both the thigh and leg appearing to be firmly united, and the limbs symmetrical and of the same length.

On the 19th of August he was re-admitted, in consequence of a fall against the edge of his bed, and a fracture of the thigh-bone in the same situation as before. This second fracture was put up in the straight position, and with the long splint.

Sept. 20.—On examination of the thigh, the bone was found to be uniting again.

Oct. 16—Union firm again—limb of the same length as the other—long splint d scontinued, and merely pasteboard and a roller applied.

Oct. 22.—All mechanical support removed, and the man allowed to use his crutches again.

This case, gentlemen, shows you several interesting points.

1. The liability of the provisional callus to be fractured, if exposed to external violence, or undue efforts, or too much weight upon it, previously to the completion of the definitive callus.

2. The truth of Dupuytren's calculation, that when the provisional callus breaks, about as much time is requisite for the second cure as for the first.

3. The case gives you a fine example of an abundant provisional callus, which is felt to be of great thickness, but which, if the man come under our notice again a year hence, when the definitive callus will be complete, will all have been removed, and the bone reduced to its natural size.

4. Convenience of the treatment with the patient lying on his back.

Compound Fracture; Wound healed without Inflammation, or any serious Constitutional Disturbance; Union as prompt as that of a Simple Fracture.

These circumstances are exemplified in the case of Sarah Bishop, admitted under me, Sept. 10, 1839.

The limb was placed on M'Intyre's apparatus—the bones adjusted, and lint dipped in cold water laid over the wound.

14th—Wound had completely healed, but a trivial slough afterwards separated, which left a small sore, that was perfectly healed by 5th of October.

Fracture of the Frontal Bone communicating with the Ethmoid Cells, or the Frontal Sinus, and attended with Emphysema, and Concussion of the Brain.

Traumatic emphysema of the eyelids is not very uncommon. Dupuytren relates a case where it was presumed to have arisen from a fracture of the os planum of the ethmoid bone, or else of the lachrymal bone. He gives the particulars of another case, in which traumatic emphysema proceeded from a laceration of the pituitary membrane; opposite the junction of the lateral nasal cartilage, which was itself separated from the bones of the nose. In a third instance, recorded by the same illustrious surgeon, the emphysema was occasioned by a fracture of the frontal sinus. I will now enter into some explanation of the case which was lately brought to this hospital, and which will be found to present several points of interest:—

Arthur Hallam, æt. 36, admitted June 22, 1839, footman to His Royal Highness the Duke of Sussex; of temperate habits, and good constitution.

About half-past 11, A.M., as he was proceeding from the terminus at Euston-square, in the last carriage of the railway train, an engine came up behind at full speed, and struck the carriage with immense force, whereby he was thrown forwards with great violence, and he received a severe blow above the right eye, which completely stunned him. In this state he was brought to the hospital: pulse small and feeble, pupils of the eye dilated. Notwithstanding the ecchymosis and swelling, a fracture of the superciliary ridge was perceptible, accompanied by emphysema, and a crepitation of air in the cellular tissue around the orbit. There was hemorrhage from the nose and mouth.

A few minutes after his admission he became sensible, and his pulse began to rise. He now complained of severe pain in the head.

At one o'clock I saw him. As he had then rallied considerably, and the pulse was fuller and stronger, ʒxvj. of blood were taken from the arm; all the fore part of his head was shaved, and covered with linen wetted with cold water, and gr. v. of the chloride of mercury were prescribed, and followed by the senna mixture every four hours.

Ten o'clock P.M. Severe headache yet persists; *double vision;* pulse being full and hard, ʒxvj. more blood were drawn, and the evacuation afforded much relief.

June 23. Headache still severe; *pain in the epigastrium, dimness of vision,* and *intolerance of light.* Has had *shiverings.* Bowels have been freely opened.

Eighteen leeches applied to the epigastrium, cold lotion continued, and two table spoonsful of the saline antimonial mixture directed to be taken every four hours. The bleeding from the leeches gave considerable relief.

June 24. General improvement, emphysema lessened, pulse reduced to 85.

June 25, nine A.M. Further amendment; intolerance of light and dimness of sight removed. Cold lotion and saline aperient mixture continued.

Ten P.M. Feel of coldness in the course of the spine; more headache; *vision indistinct again*. Twenty leeches applied to temples, followed by fomentations.

June 26. Symptoms relieved, emphysema more diminished, distinct vision restored, pulse soft and regular, little appetite. Cold lotion and saline aperient mixture continued.

June 29. Severe pain in the right temple having come on again, fifteen leeches were applied, and gave great relief. The bowels being too open, the sulphate of magnesia omitted in the mixture.

July 4. Allowed to get up and take a little beef-tea, for the first time. *Light yet inconvenient* to the patient when he looks at a window. Cold lotion and mist. ant. tart. continued.

July 20. Discharged, cured. The patient called at the hospital a few days after this date, complaining of vertigo and headache, for which he was cupped, and restricted to a very low diet. This plan at length restored him to perfect health.

This case, gentlemen, gives you an instance of the following circumstances:—

1. Fracture of the frontal bone, extending either to the frontal sinus, or os planum, with traumatic emphysema.
2. Fracture with concussion of the brain.
3. *Dilatation of pupils*, frequently noticed in the early stage of concussion.
4. Concussion succeeded by *diplopia* and indistinct vision, of which we have lately had other examples in the hospital.
5. The long duration of headache, intolerance of light, and other symptoms after concussion of the brain, and their great propensity to return.
6. The signal efficacy, in such cases, of bleeding, leeches, cold lotions, calomel, and antimonial saline medicine, with a rigorously low diet.
7. The quick appearanec of emphysema after a fracture of the foregoing kind; its limited extent, so different from what sometimes follows an injury of the lungs themselves, and the usual commencement of its subsidence in three or four days after the accident.

In my next clinical lecture I will invite your attention to the case of the poor woman, 87 years of age, on whom I operated for a strangulated femoral hernia; and who, notwithstanding her very advanced age, is in a fair way to recovery.

SMALL-POX AND VACCINATION.

To the Editor of the Medical Gazette.

SIR,

I willingly acknowledge that my style is faulty, and too much abounds in those tropes and rhetorical figures which unskilled writers are apt to indulge in. As, however, I merely wish to defend the Vaccination Report, and not to show off fine writing (which I never made any pretensions to), if you will only pardon and tolerate my style, I shall not be very solicitous about its pleasing others. If an illustration seems to me apposite and forcible, I never stop to consider how coarsely idiomatic and unfashionable it may appear; and as I fear I cannot reform at once, I wish to bespeak your further indulgence, feeling assured that you can well appreciate the difference between that which is rugged and homely in expression merely, and that ingrained vulgarity of feeling which often peeps out from more polished and courtly periods. I feel obliged to Dr. Gregory for quoting my objectionable phrases, since I may thereby learn in future to avoid them, and since they appear such very small matters when compared with the graver controversial delinquencies of my opponents. I may be a little mortified that in this instance Dr. Gregory has contrived to quote correctly, since any alteration here would have probably been an improvement; and I may the more wonder at the exception, since the spirit of misquotation seems so strongly to possess him that even Scripture cannot escape But perhaps I may be wrong in this particular, since it might be some qualm of conscience which compelled Dr. Gregory to confess the truth, that there was a beam in his own eye, and only a mote in Dr. Baron's; unless, indeed, it might be attributed to some mischief-loving printer's devil, who knowing the real state of the case, chose to saddle the right horse. I admire the acumen of Dr. Gregory in detecting "close medical reasoning" where there was none intended: for though I certainly did attempt something of the kind in my former letters, yet in my last I confined myself merely to flinging back a little of the mud that had been lavished on the Report, and pelting away at certain "glass houses" by way of slight retaliation. Unused as I am to controversy, I have yet ingenuity enough not to make unnecessary disclosures respecting the persons whose crudities I alluded to; and the alacrity which Dr. Gregory manifests in adapting the cap to his own

head, leaves nothing for me to do but to applaud the excellence of the fit. Neither do I feel it incumbent on me now to declare whether or no I have, in the present instance, verified this line of an old song: "I aimed at a pigeon and killed a crow." I also know thus much,—that a captious question deserves a different treatment from one put for the sake of information, and as Dr. Gregory can himself so well answer the query contained in his Postscript, he must for once spare me the trouble of replying. His gratuitous exposure of his motives demands thanks. Possibly he might have obtained credit for their greater elevation and purity; but his own confession is the first authority on the subject, and their genuine nature is now indisputable. I feel, however, tempted to deal leniently with an opponent who has smarted so long under the gentle tap administered by Dr. Baron, and who now, at the expiration of twelve years, audibly vents his groans, and seizes an occasion for diminutive revenge. But what would be thought of me were I to treat even my anonymous opponent, Scrutator, in Dr. Gregory's fashion;—were I to take his confession of having made two false charges, and dwell on them week after week, and insinuate the worst about them —as for instance, that he knew they were falsehoods, but hoped they would escape detection—what, I say, would be thought of me, except this—that the poverty of my resources was strangely associated with the pertinacity of my spite? And what then, *a fortiori*, must be thought of Dr. Gregory, or what can be said to him, except strongly to recommend him for his own sake to betake himself to his prudent resolution of writing anonymously?

With respect to Scrutator, I should trespass too much on your columns now, were I to expose the untruths and scourge the impertinencies which lie so thickly scattered through his letter. For the present, then, let them stand over as an unsettled balance between us. I wish to remind him that I have once and again entered on a train of reasoning on the topics most intimately appertaining to the Report, thinking it possible that my opponents, when they had expended their abuse, might at last have no objection to argument. I took points of such intrinsic importance to the Report that by them it must stand or fall. These they have chosen to evade, and have taken up positions, not foreign indeed, but much more remotely allied to the matter in hand. I should be justified were I to imitate their example, and pass them by; but I will (as the only chance of putting an end to these idle evolutions) at once enter their intrenchments, and try conclusions with Scrutator on his own ground.

I fully agree with him that it is highly important to ascertain, if we can, the precise amount of protection which vaccination affords, and I accordingly invite the impartial reader to examine with me the calculations by which he proposes to determine this point. At page 487 he gives us a table for this purpose. It is marvellous that this statistical adept should, in this very table, have entirely omitted the cardinal element in the calculation; the *total*, and the *only total*, on which any available per centage can be reckoned—namely, the *number of vaccinated persons exposed* to small-pox infection. The question is, what proportion of vaccinated persons exposed to infection escape it?—and by way of answer, Scrutator only gives us a per centage of vaccinated persons *on a total of small-pox patients*; from which I defy him, or any other man, to arrive at any but the most absurd conclusions as to the point in hand. The table says that this per centage is, at Ceylon, 47 and 59; at Wirtemberg, 62; and at Copenhagen, 85 and 86. From this I may possibly be able to form some rough conjecture as to the extent to which vaccination is practised in these districts, but can infer nothing as to the prophylactic efficacy. I must have given me *the proportionate number of vaccinated and unvaccinated persons exposed*, or I am at a stand. I will admit that the returns from Ceylon, Wirtemberg, and Copenhagen, are not fraudulent, but I can draw no inference from them as to the efficacy of vaccination, except on one supposition, and that an absurd one—namely, that in each place there were just as many vaccinated persons when the small-pox broke out. Thus the table, as it stands, is altogether deceptive. Anti-vaccinists, indeed, might be thereby beguiled into the conclusion, that the more vaccination is diffused, the more the liability to small-pox is increased; and that since, at Copenhagen, for every 14 non-vaccinated persons attacked by small-pox, there are 86 vaccinated persons attacked, therefore, in that locality, a vaccinated individual has six-fold less chance of escaping the contagion than one who has not been vaccinated. On the other hand, a person who believes that vaccination does afford some protection, finds himself involved in this curious contradiction—that the more a country is protected, the less it is so. Scrutator himself seems actually to have been duped by his own juggle; for he gravely taunts Dr. Baron with persisting in his opinions in the face of this evidence from Denmark,

where vaccination is so very complete, and yet 86 per cent. of vaccinated persons have been attacked by small-pox. As if it really did require some Denmark ghost to tell Scrutator, that if an epidemic of small-pox broke out among a population where *all* had been vaccinated, there would be no less than 100 per cent. of small-pox cases after vaccination; and that, as far as his statistics are concerned, it would not make the slightest difference whether 10 or 10,000 of a population, thus circumstanced, were attacked by small-pox. It is possible that Scrutator may have the weakness to retort on me, that I require an element in the calculation which I know cannot be obtained. Why, this is the very thing; it is this unavoidable and essential imperfection which renders statistics, applied to this branch of the subject, such a flagrant imposition—such a plausible but delusive cheat.

This will be enough to open the campaign with. I wish to reserve further demonstrations for the present, particularly as I am told that the new year will witness these anilities paraded in a more ponderous vehicle, and in a more imposing array. I sincerely thank you for affording a clear stage, and shewing no favour to either party. I am particularly glad that you have permitted Dr. Gregory and Scrutator to record their impotence and malice in your enduring columns, and have thus provided an amusing chapter to any one who shall undertake to write the history of the anti-vaccinists*.—I am, sir,

Your obedient servant,

HENRY COLES.

Cheltenham, Dec. 23, 1839.

[Here this controversy, so far as this journal is concerned, must terminate; or, at least, if continued, it must be in the *extra-limites* department.—ED. GAZ.]

VACCINE LYMPH FOR A PENNY.

To the Editor of the Medical Gazette.

SIR,

AN official notification having been issued that from and after the 10th of January next, the Penny Postage system is to come into operation, I crave a small space in your valuable journal, that I may inform your country readers that all applications for vaccine lymph addressed, after that day, to the Resident Surgeon at the Small Pox Hospital, London, shall receive the earliest possible attention.

An opportunity will then be given (which I have long ardently desired) of shewing the profession in England whether Dr. Baron was justified in saying that "the atmosphere of the Small-Pox Hospital has always been unfavourable to the benign influence of vaccinia," and whether Dr. Conolly was warranted in stigmatizing "the whole history of the Small-Pox Hospital as being most unfortunate as far as vaccination is concerned."

The effect of the new system of postage in bringing to the door of every medical man in the country a supply of vaccine lymph, from various sources, at the small charge of one penny, cannot but have a most remarkable effect upon the practice of vaccination. I stated this very strongly to the Committee of the House of Commons, appointed to investigate the Post Office question, and I now confidently look forward to the most favourable results.

I am, Sir,

Your obedient servant,

GEORGE GREGORY.

31, Weymouth Street,
Dec. 28, 1839.

PECULIAR DISPLACEMENT OF THE BONES OF THE FOREARM.

To the Editor of the Medical Gazette.

SIR,

HAVING read, in your journal of the 13th inst., a letter signed John Gardner, referring to a peculiar displacement of the bones of the forearm, observed by the writer, and which he believes he was the first to describe about two years ago, I beg leave to refer those interested in the subject to Chelius' Handbuch der Chirurgie, 3d edit. Leipzig 1828, vol. i. p.661; where they will find a passage of which the following is a translation:—"The luxation of the radius backwards, is more common (viz. than forwards), and more frequent with children than adults. It does not always occur suddenly in children, but arises from the habit of leading them by the hand, which gradually produces a relaxation of the ligamentary apparatus. This shews itself for some time, by a greater protuberance of the ends of the bones, and a painful swelling of the articulation. If after this, the same violence be continued, a dislocation of the radius backwards is the consequence. In the moment of luxation, the patient is sensible of acute pain; the arm is bent at the elbow, and the hand is in pronation: supination is impossible, and the attempt

* ERRATUM.—In my last, *for* "perpetration," *read* "perpetuation."

only augments the pain. The hand and fingers are half inflected, and the head of the radius projects very obviously."

As I have not seen the original paper, which may materially differ from the foregoing quotation, and am only actuated by the principle of *suum cuique*, I beg, Mr. Editor, you will exercise your discretion in giving this publicity.

Your obedient servant,

ZETA.

December 31, 1839.

MALE HYSTERIA.

To the Editor of the Medical Gazette.

SIR,

As some of the symptoms in the following case simulate those which occur in female hysteria, I have sent it to your journal for insertion.—I remain, sir,

Your obedient servant,

G. J. B. ALDIS, M.D.

Physician to the London Dispensary.

13, Old Burlington-Street,
Dec. 31, 1839.

Samuel J., æt. 27, a weaver, was admitted; under my care, December 19th last. Complexion pale; of nervous temperament; complains of "a ball rising in his throat," which causes a sense of choking and suffocation to such a degree that he faints, falls back in his chair, and "does not know where he is." On one occasion he fell down, became insensible for five minutes, and was convulsed; did not bite his tongue. Depression of spirits, burning in the chest, and palpitation of the heart; occasionally coughs affectedly, sighs, and often breathes strongly through his nostrils. Pulse rapid; tongue clean; bowels torpid; urine free, but abundant and pale.

Is very energetic in describing his symptoms, and states that "all his punishment is up here," pressing his hand firmly on the upper part of the sternum and throat, "where the ball comes, which sometimes rattles to the back." Brought up a little blood some months back. Expands his chest freely, and the lungs are resonant on percussion. The heart is palpitating violently, unaccompanied by any murmurs.

He is improving under the use of decoct. aloes c. and small doses of acetate of morphia in camphor, which have allayed the palpitation of the heart.

STATISTICS OF POISONING IN DENMARK.

NINETY-NINE cases of poisoning occurred in Denmark from 1830 to 1835; sixteen by arsenic, seventy-four by sulphuric or nitric acid (generally diluted), four by caustic potash, one by an undetermined caustic, two by opium, one by litharge, and one by verdigris.

Of the sixteen cases in which arsenic was taken, four were suicidal; in three it was intentionally given by others; in three it was taken by mistake; and in six it was uncertain whether it had been taken by mistake or not. In one case an arsenical ointment, which had been intended for a different purpose, was used for poisoning. Of the seventy-four cases of poisoning by sulphuric or nitric acid, fifty-seven occurred in Copenhagen, and seventeen in the provinces. Among the latter, suicide was attempted or effected in thirteen instances; twice, the poison was given by others; and thrice, the poisoning occurred through a mistake. The two cases of poisoning by opium were both suicidal; one was an apothecary's apprentice, and the other an hysterical woman, for whom laudanum had been prescribed as a remedy.

The case of poisoning by litharge occurred through mistake; but it is to be observed, that symptoms of poisoning by litharge have hitherto not been uncommon in Denmark, as the peasants use it to sweeten their sour beer. In 1838, three such cases, though not fatal ones, occurred near Friedrichsburg, so that the public has become aware of the injuriousness of the practice, and measures have been taken to prevent it by law. The case of poisoning by verdigris was caused by a solution in brandy. It was uncertain, however, whether the symptoms had been caused by the trifling quantity of verdigris which was found, or by great errors in diet. The cases of poisoning by caustic occurred through mistake.—*Zeitschrift für die gesammte Medicin.*

September 1839.

[It is remarkable how small is the number of cases of poisoning by arsenic and opium in the above summary, compared to those where the mineral acids were employed. The total number is too large to allow us to attribute this to accident; it must rather depend on some peculiarity in the habits or customs of the people]—*Translator's note.*

A GENERAL BILL
OF THE
BURIALS, WITHIN THE CITY OF LONDON, AND BILLS OF MORTALITY,

From Dec. 11, 1838, *to Dec.* 10, 1839.

DISEASES AND CASUALTIES OF THE YEAR.

Diseases.	
Abscess	65
Age and Debility	1518
Apoplexy	192
Asthma	335
Cancer	45
Childbirth	105
Cholera	3
Consumption	1974
Constipation of the Bowels	6
Convulsions	1218
Croup	55
Dentition or Teething	278
Diabetes	6
Diarrhœa	29
Dropsy	451
on the Brain	229
on the Chest	38
Dysentery	4
Epilepsy	25
Erysipelas	37
Fever	530
(Intermittent or Ague)	6
(Scarlet)	471
(Typhus)	132
Fistula	3
Gout	9
Hæmorrhage	28
Heart, diseased	79
Hernia	2
Hooping-cough	252
Hydrophobia	1
Inflammation	677
Bowels&Stomach	160
Brain	134
Lungs and Pleura	315
Influenza	12
Insanity	119
Jaundice	8
Jaw, locked	2
Liver, diseased	54
Measles	478
Miscarriage	4
Mortification	69
Paralysis	99
Rheumatism	16
Scrofula	4
Small-pox	239
Sore Throat and Quinsey	23
Spasm	18
Stone and Gravel	3
Stricture	10
Thrush	47
Tumor	18
Worms	2
Unknown Causes	5673
Casualties, as under,	375

Casualties.	
Drowned	76
Died by Visitation of God	67
Excessive Drinking	13
Found Dead	12
Killed by various Accidents	171
Murdered	1
Poisoned	6
Suicides	29

Buried { Males ..... 8,406 / Females .... 8,279 } Total 16,685

Of the number buried were,

Under 2 years of age	4371	40 and under 50	1660
2 and under 5 years	2035	50 and under 60	1434
5 and under 10	893	60 and under 70	1475
10 and under 20	657	70 and under 80	1089
20 and under 30	1170	80 and under 90	377
30 and under 40	1486	90 and under 100	37
		104	1

BOOKS RECEIVED FOR REVIEW.

The Transactions of the Royal Medico-Botanical Society of London. Edited by W. H. Judd, Esq. senior Secretary. Vol. 1, Part IV. London, 1839. 8vo. pp. 248, and a plate.

Observations on Medical Education, with a view to Legislative Interference. By Richard Jones, M.R.C.S.&c. London, 1839. 8vo. pp. 52.

A Treatise on the Medical Jurisprudence of Insanity, by J. Ray, M.D. With an Introductory Essay by D. Spillan, M.D. London, 1839. Small 8vo. pp. 436.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Dec. 12, 1839.

Alfred Octavius Leete, Thrapstone.—John Coleman, Dover.—James Wiltshire, Epsom.—John Whitmore, Worthing.—Henry Hare.—Richard Axford, Bridgewater.—Humphrey Aram Bryan, Barnstaple.

Thursday, Dec. 19.

John Cox Baker, Lisson Grove.—George Brown, Colne Engaine, Halstead.—John Samuel Snook, Colyton, Devonshire.—Henry Giles, Charmouth, Dorset.—William Sugden, Bath.—John Henry Eccles, Plymouth, Devon.—John Nixon Simpson.—Corbett Johnson Cooke, Clay.—William Robinson, Huddersfield.—John F. Nicholson.—Joseph Green Wilson, Whitchurch, Salop.—Robert Beeston Wright.—Frederic Charles Coward.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Dec.* 31, 1839.

Abscess	1	Hooping Cough	6
Age and Debility	25	Inflammation	13
Apoplexy	2	Bowels & Stomach	3
Asthma	8	Brain	4
Childbirth	2	Lungs and Pleura	16
Consumption	37	Insanity	1
Convulsions	17	Liver, diseased	1
Croup	1	Measles	6
Diabetes	1	Mortification	1
Dropsy	7	Paralysis	1
Dropsy in the Brain	2	Scrofula	1
Fever	2	Thrush	1
Fever, Scarlet	11	Unknown Causes	88
Heart, diseased	4		
Hernia	1	Casualties	8

Increase of Burials, as compared with the preceding week . . . 105

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Dec.	Thermometer.	Barometer.
Thursday . 19	from 37 to 51	29·32 to 29 34
Friday . . 20	49 54	29·26 29·28
Saturday . 21	43 51	29·40 29·39
Sunday . . 22	44 51	29·38 29·32
Monday . . 23	46 55	29·50 29·33
Tuesday . . 24	52 55	29·20 29 26
Wednesday 25	48 35	29·44 29·58

Prevailing wind, S.W.

Except the 25th generally cloudy, with frequent and heavy showers of rain.

Rain fallen, 1 inch and ·5375 of an inch.

Charles Henry Adams.

NOTICE.

Mr. B.'s request has been complied with, and a letter left for him at our Publishers.

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, JANUARY 10, 1840.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.

Surgeon to the St. Marylebone Infirmary.

SCROFULA—*continued.*

Most probable Causes considered—Treatment—Change of Climate—Food—Exercise—Medical Means—Purgatives—Emetics—Bloodletting—Alkalies—Muriate of Baryta, Iodine internally, externally — Mercurials — Cicatrices.

CANCER.

Nature—Anatomical Characters—Varieties—After Carswell, after Müller—Scirrhoid Structures — Anatomically — Chemically—Encephaloid Structures — Anatomically—Chemically.

As I have denied the power of any one of the so-called causes of scrofula to produce the disease, it may reasonably be asked whether I am prepared to substitute for them any more probable exciting cause. I believe, that with the exception of the ordinary contagious diseases, and those caused by violence, the greater number of the complaints to which mankind is liable may be excited by a variety of causes, and that frequently several are in action at the same time. When we see the child of persons in easy circumstances suffering from scrofula, whilst the parents shew no manifest indication of being the subjects of the disease, or of having suffered from syphilitic taint—when the sufferer does not present the lymphatic temperament, is well fed and clad, and living in large and lofty rooms—we have a difficulty in pointing out a cause; but usually it is not so. Ordinarily, we shall find that such a child has suffered from worms, has bad digestion, increased at the commencement of the second dentition—that there is an indisposition to run about with other children—that its flesh becomes flabby—and that swellings of the glands of the neck are observed. There are two schools not far from my residence, in which I have been enabled to make the following observations:—The number of children maintained in each is about a hundred—the annual admissions about thirty; the dormitories contain about twenty. In the one, the rooms are low and small; in the other, they are large and lofty—in each case infinitely superior to the homes from which they came; in the former of the two schools the cases of scrofula amounted last year to twelve; in the latter, to five. Now when those children were at home, during much of the day the heaven was their canopy—they were running about the streets; they were in the way at home; they were ill fed and miserably clad—for sixteen or eighteen hours they were confined to their narrow homes; for six they were wandering about—but no scrofula was developed. They come to school; they are fed with a sufficiency of wholesome food; their persons are kept clean and well covered; they live in rooms where all possible ventilation is attended to: but mark the difference between the large rooms and the small ones. In these cases, their condition, save and except upon two points, that of breathing the unconfined air of heaven, and using considerable muscular exertion, is greatly ameliorated. What, therefore, prevented the earlier development of the disease? I apprehend these two causes:—

I will support this position by further evidence. What caused the lesser frequency of the disease in the children of the Wiltshire peasants than in the child

of the Marylebone mechanic or labourer? The more uncontrolled use of legs and lungs—even in spite of worse food. Again, take the children of mechanics in the northern counties of England. What is their life? During much of the day they are occupied in manufactories, not in close rooms, but large halls—and one of two things happens. Either they are leading a sedentary life unchanged from day to day, or they are exhausted by muscular exertion or *ennui*—in all, the same condition of system is produced; they become flabby and exsanguined, and scrofula is the consequence. Here the air they breathe has not undergone that vitiation upon which M. Baudelocque so much insists, but the result is the same. Take another class of people, in whom the result is still more painful, persons also engaged in manufactories; those who, like the class found in Spitalfields, perform their labour in their own miserable habitations; many members of such families frequently do not go out of doors for days; the children are equally employed. When cold weather comes, to save coal and maintain warmth, every crevice in the window is carefully stopped up, and the door kept shut; here those two causes are in action in all their intensity, and the havock which this disease makes under these circumstances is very fearful.

At the same time, therefore, that I admit that hereditary predisposition may possibly be entailed—that the child of parents whose health is deteriorated by scrofula or any other disease, may come into the world a miserable and ready recipient of any disease—at the same time that I admit that the *lymphatic temperament* is a probable indication of a constitution less able than others to resist the inroads of disease; that a diseased nurse may furnish milk ill adapted for the purposes of nutrition, capable of disordering the bowels, and perhaps exciting mesenteric disease; that parents who are tainted with syphilis are less likely than persons in health to give birth to healthy children; that food may be so bad in quality, or deficient in quantity, as to produce a general deterioration of the powers of life; that filth and insufficient clothing may materially interfere with cutaneous exhalation; that a vitiated air does necessarily but surely cause a decline of the vital powers; and that the want of muscular exertion brings about a similar condition; yet I have no evidence sufficiently conclusive to produce a conviction on my mind that either of these "causes," acting singly and alone, but uncontrolled as to duration or intensity, is capable of generating scrofula in a person free from the disease when the influence came into action.

Treatment.—Now, as to treatment, I would say, if a child is residing in a town, no matter whether in a large house or a small one, a change to the country is very desirable. The change of air, joined to the exercise in the open air which may there be taken every hour in the day, is unquestionably a very powerful means of preventing the development of the disease. With respect to the necessity for change of climate, I have much difficulty in pronouncing. Many circumstances would seem to warrant the opinion, that such changes may exercise a remarkable influence in the development of scrofula. It is unquestionably a fact, that men apparently exempt from all scrofulous disposition or affection, are now and then attacked, when they quit a warm country to inhabit a cold one; and in these cases it is said the disease is more serious and more difficult to cure: the broad fact may be true; but we want to know what has been the change in their habits as well as in the climate. Again, it is not easy to ascertain whether in youth a tendency to the disease was manifested. If a child be brought to you suffering from the disease, and you ask the parents whether they have suffered from a similar affection, you may be sure they will say no, and will vaunt the excellence of their constitution; they may say, "probably the nurse may have been tainted, or that their child has mixed a good deal with some children who had suffered." It is certain that animals transported from warm to cold climates ordinarily suffer from tubercles; but then it is difficult to estimate the influence of climate in producing the disease; their accustomed exercise in searching for food is lost, and they are the denizens of a narrow space, boarded on three sides, so as to allow of a minimum ventilation. On the other hand, it is certain that persons evidently scrofulous are frequently much benefited under the influence of warmer climates; in fact, it seems to be by this circumstance that we are enabled to explain the amelioration which patients undergo during summer, whilst, during other portions of the year, the disease may resist every kind of treatment; and without seeking to depreciate the merits of iodine, every one who has been accustomed to administer the different preparations of this medicine must have observed how comparatively inefficacious they are in the cold months; how decidedly advantageous is their exhibition during summer.

Before we proceed further it is necessary to inquire whether there be any other particular circumstances under the influence of which remedial means present a better prospect of success. As to food, the course I am accustomed to pursue is, to afford my patients what is termed a

generous diet, when there is no decided mesenteric affection to contra-indicate it; to give them a moderate quantity of animal food once a day, with well-cooked vegetables, and good bitter table beer, or wine and water. As to cleanliness, this must be carefully attended to, either by means of bathing or sponging; the surface of the body should be daily abluted and rubbed for some minutes, until thoroughly dry, and the capillary circulation of the surface be stimulated by means of warm towels. A most important element in the treatment, and one which cannot be too much insisted on, is exercise; but it must not be that kind of gentle exercise which invalid children left to themselves are too apt to take, but such as will largely employ the muscular system; they should be taken out twice or thrice daily in winter, if possible; and in summer they should be very little in the house during the day. It is necessary that games should be provided for them, so as to secure active motion for as long a time as the patient can bear it without fatigue. Indeed, I hold this to be one of the most decided preventives of this disease. I am so strongly impressed with the value of this agent, that I willingly subscribe to an opinion I have somewhere seen maintained, that by the well-directed employment of strong muscular exercise, many cases of this disease, where even tumors are found in the neck, may be cured. I hold it, therefore, to be necessary, that the several means to which I have now alluded should form the ground-work of our treatment of this disease, to which should usually be added the exhibition of certain medicinal substances.

Various medical systems have been greatly eulogized by their respective inventors. Many of them have long been consigned to oblivion, and probably some of those still retained, might, without loss, share a similar fate. I have fairly tried four of these systems, and I shall lay before you the results: those which I have employed are the antiphlogistic; in which I include the use of purgatives, emetics, blood-letting, and counter-irritation, the alkaline treatment, the treatment by the various preparations of iodine, and the mercurial.

Purgatives are unquestionably useful when conjoined with the general means to which I have alluded, and will frequently very manifestly modify, if not cure the disease, and they are especially valuable as an adjunct to the other modes of treatment: they are particularly useful when given during those periodical interruptions which are necessary in the treatment by iodine. How they exercise this beneficial influence is not so easy to explain—whether by exciting the action of the stomach and intestines, by procuring serous evacuations, or by other means; so much, however, is certain, that they are often of great use, and especially as an accessory means of treatment. The impression produced upon my mind is, that those purgatives are most beneficial which procure fluid evacuations, those into which saline substances enter.

My own experience does not enable me to recommend emetics with so much confidence as seems to have been felt by Bell, Smyth, Bordeu, Kortum, or Dussassoir. Undoubtedly, scrofulous children very commonly present a furred tongue, which is often not cleaned by the use of purgatives; such a case is often much benefited by one or two emetics; but beyond this my belief in their efficacy does not extend. I have never known the frequent use of emetics to be succeeded by any greater amount of amelioration than is usually experienced from the exhibition of two or three.

I have never known more than a passing relief to result from *blood-letting*; and this might naturally be expected, if it be true (and there is every reason to believe it is) that in scrofula the serum largely predominates in the blood. The abstraction of any quantity of blood must necessarily lessen that proportion, and as necessarily increase the evil which it is intended to remedy. The action of purgatives, when they produce watery stools, is the opposite of that. They occasion the exhalation of a considerable quantity of serous fluids upon the mucous surface of the intestines; and by so much lessen the preponderance of the serum in the blood.

In the last and the preceding centuries it was currently believed that we possessed a power of neutralizing the condition upon which the tendency to abnormal deposits depended; and that power was supposed to exist in the *old subcarbonate of potash, or salt of tartar*. Levret believed that it was capable of rendering all deposits fluid, and that in this condition they might be absorbed or evacuated. Although, in the present day, we are satisfied that such virtues are not found in this substance, yet a sort of vague, undefined impression seems to exist, that it is not wholly useless even in scrofula. The Elixir of Peyrilhé, used in France up to the present day, is a mixture of this substance with infusion and tincture of gentian. In the *Collectanea Hauniensis* is a case of rickets, which appears to have been successfully treated by this medicine. Internally, I have given this medicine in small and large doses, in almost every form of scrofula, whether affecting the

glandular, the mucous, the osseous, or the fibrous tissue; and I am unable to point out any case in which any small amount of relief which may have been obtained during its use could be fairly referred to this medicine.

In 1784, Crawford proposed as a remedy the *muriate of baryta*; it was well received, and was very generally used through the greater part of Europe. Suddenly two very opposite opinions were propagated with regard to it: one, that it was a useless addition to the materia medica; the other, that it was an agent of great energy, and that its exhibition, unless very guardedly, was not without considerable danger. These opinions were no sooner published than its use was abandoned, without, as it appears to me, any fair trial, in every country of Europe, except Austria. The Austrians were satisfied that in this medicine they possessed a very valuable agent in the cure of scrofula, and my own experience has convinced me that they were right, and that with the exception of iodine, no medicine seems to exert a more decided influence over scrofula than the muriate of baryta. It usually increases the appetite to about as great an extent as we see in children who are taking moderate doses of iodine; it increases all the secretions, and sometimes, like some of the forms of iodine, produces diarrhœa. In twelve cases where is was exhibited in the dose of, at first, one-third, and afterwards half a grain, three times a day, no unpleasant symptom was developed. Eight were materially benefited by its employment. The general health improved sensibly, and the enlargement of the glands was very considerably lessened. In the other four cases no sensible influence was exerted over the disease. At the same time, however, that I am fully sensible of the valuable character of this medicine, I am bound to admit that its curative effects are less powerful—less certain—than those of iodine, and therefore for some time I have ceased to employ it. Several times I have proposed to use it alternately with iodine, or, when it has been necessary, to intermit the employment of the latter; but I have not yet carried this intention into effect.

Iodine, in its various forms, I have used extensively; and I have had very ample opportunities of estimating the relative merits of the different preparations of this substance. I have administered it in the form of tincture mixed with water, and also associated with the iodide of potassium. I have exhibited the iodides of iron, lead, sulphur, and arsenic. I have employed it externally, in the form of ointment, lotion, tincture, and bath, and as a broad or wholesale result, I may state shortly, that at present I rarely use internally any other form than the iodide of iron, and that the dose does not exceed, in any case, three grains, three times daily. I do not object to the tincture, because, as is alleged, the iodine is thrown down in a pure state when dropped into water, and so applied to the mucous membrane of the fauces and stomach, and is apt to create irritation there; but because I found that diarrhœa was an occasional consequence of its use—that it was inconvenient to trust the persons ordinarily found about patients to administer it—or because, when mixed in considerable quantity, a certain portion is precipitated, and because I found, in the ioduret of iron, a more valuable and certain remedy. I am quite ready to admit that many of these inconveniences were lessened by the combination of iodine with the iodide of potassium, suggested by M. Lugol: but the objection I found to attach to this form of administering the medicine, was the bulk of the vehicle, which very frequently disordered the stomach; and when I have lessoned it, I have usually seen disorders of the stomach and intestines as a consequence. And in several cases, although the doses have always been moderate, the poisoning effects of this medicine have been developed; and I have no doubt that these effects would have been more frequently seen had we not from time to time interrupted the treatment.

Internally administered, I have had no reason to speak strongly in favour of the iodides of mercury, lead, and arsenic. The first and last are unquestionably energetic preparations, but I think them better adapted to certain obstinate diseases of the skin than to scrofulous tumors; and even externally, except in a very dilute form, when they may unquestionably second the internal administration of the medicine, should the quantity of biniodide of mercury not exceed ten grains to the ounce of lard, or the irritation excited upon the part where it is rubbed will be such as to prevent our continuing it. The preparation of lead, in the proportion of a drachm to the ounce of lard, rarely excites similar irritation.

I have a register of 232 cases in which I have exhibited the iodide of iron. The minimum dose has been a grain twice a day, the maximum three grains three times a day. Of these cases, only three times was it necessary to intermit the use of the medicine for a few days: in one of these it excited ptyalism; it was laid aside for a fortnight, again resumed, and again produced ptyalism. Since that period, and within the last twelve months, the same patient, on her return from Margate, has been taking the medicine with the most

decided good effects, and without ptyalism. In the other case diarrhœa supervened; the medicine was withheld for ten days, was then resumed, continued for several weeks, and without any derangement of the bowels. About once a week an aperient or purgative is given, which decidedly assists the treatment, but no other suspension of the medicine occurs. Where scrofulous ulcerations occur, whether as a consequence of abscess or from other cause, I am accustomed to employ, with the very best effect, a lotion containing three or four grains of this preparation to the ounce of distilled water.

In the employment of iodine or the iodide externally, one fact cannot escape a superficial observer, and that is, the rapid change which follows the application. For a few days this diminution is very striking, but it is not long continued, and after a fortnight or three weeks the tumor appears stationary. Then is the time for resorting to a new form, which must be employed for a similar period, and must then give place to a third. But although these external applications will occasion a marked diminution of such tumors, they hardly ever completely disperse them; and when applied alone, without a concurrent internal administration of some preparation of the medicine, their effects are much less decided. When such tumors are extremely indolent, the ointment may be rubbed upon the part without fear of injury; but if they be the seat of irritation, it is very likely to be increased by friction. In consequence of this circumstance, I usually recommend it to be applied, to the part, spread on lint. It is thus kept in contact with the surface for a much longer time, the irritation consequent upon rubbing is avoided, and the good effects of the medicine are more decidedly marked than by any other mode of application.

Many authors speak of great or partial emaciation consequent upon the use of iodine. Jahn describes cases in which the emaciation was general. Coindet has referred to a diminution of the mammæ. Hufeland also gives three examples of it. Others have referred to the testicle as suffering in a similar way. And these isolated cases, which may or may not have succeeded to the use of iodine, are erected into a general law. Now, in my own experience, so far from emaciation of the whole or a part of the body being essential to the therapeutical action of this medicine, when prudently administered, one of the earliest symptoms observed is a remarkable increase of appetite, and a corresponding increase in the bulk of the body. I have watched its effects with great care, and I have not known a single case in which either the whole or even a part of the natural structures of the body have undergone any such change.

My experience of iodine in the form of baths is inconsiderable: such as it is, it leaves no desire on my mind to extend it. In two cases a considerable and troublesome eruption on the skin was produced; in three cases vertigo, with a suffused countenance, was occasioned, which was not dissipated for many hours, and no sensible good effect was produced on the tumors. These circumstances, added to the costly nature of the remedy, have deterred me from prosecuting further this mode of treatment. I know that this opinion is in opposition to that of Lugol, who is satisfied that the cure of these diseases is much accelerated by the conjoint use of baths and internal remedies; but any one who reads the cases given by Lugol cannot fail to recognize the same effects which I have described, though with less intensity. However, Baudelocque has come to a conclusion not very different from my own. Still he points out a remarkable effect which he has observed upon suppurating surfaces: he has always seen the suppuration much diminished, and the surface contracted; so that for some days much less linen was required for dressing the patients; but this effect does not seem to have been permanent.

Relying upon the encomiums of Hufeland, Charmeil, and others, I resorted to the use of the *black sulphuret of mercury* in the treatment of this disease; but, whether associated with hemlock, magnesia, or ipecacuanha, I found no sufficient reason to induce me to employ it generally. I do not deny that the disease is often gradually but slowly ameliorated during the administration of this medicine; and I have never known any unpleasant effects —such as salivation, to result from its use; on the contrary, the tongue and the evacuations have improved under it, but with much less certainty and a much greater loss of time than under the influence of iodine. I prefer it to the common mercurial remedy employed in such cases—calomel and rhubarb—because, with the exception of the amount of good produced by evacuating the bowels, I have never seen any decided antiscrofulous virtue manifested by it.

Though, under the influence of those remedies which we have just been considering, a patient's general health may be very decidedly improved—though glandular tumors may lessen—and even where suppuration has taken place, and the integuments over it have become thinned, they may be dissipated, yet where scrofulous matter has been deposited in its cheese-like form, neither iodine nor any

other remedy which we know has power to procure its absorption; where it is deposited there it must remain; a point around which irritation is easily kept up, and about which, sooner or later, suppuration will take place; the abscess will either break, or art will interpose to facilitate this result by puncture, and it may thus be eliminated from the system. True it is, however, that the disposition to deposit this matter may be neutralized, and that all the more fluid portions of matter so deposited may be absorbed, and that, after death, a mass of cretaceous matter will be found to occupy its place. But in a large number of cases, spite of the most prudent treatment, the local disease will end in abscess; for instance, out of 89 cases, 33 presented this termination. When this is inevitable, it is unquestionable that we ought to anticipate by puncture, or other means, that gradual thinning of the tissues to which nature resorts in accomplishing the object; but it is not an easy matter to determine whether or not a scrofulous abscess will advance or retire: we may see the integuments so thinned that only the cuticle would seem to prevent its emptying itself, and yet it will retire—the whole of its contents will be absorbed. It must, however, be borne in mind that such abscesses are usually found to occupy the cellular tissue, and sometimes a lymphatic vessel, where no gland exists; in those cases where the abscess surrounds a gland where the product deposited in the substance of the gland is a constant source of irritation, the onward progress of the disease is more probable. It would, of course, be desirable that not only the thin sero-purulent matter which is usually contained in such abscesses, but also the scrofulous product, should be evacuated before the thinning has proceeded far, and the violet colour of the integuments is displayed; but this is a desideratum not easily accomplished. If the product have not undergone softening, often no evacuation of the matter will take place; if it have, a slight oozing, bringing away from day to day small portions of this matter, will be the course of evacuation, and often many months will elapse before the gland and its contents shall have been evacuated; and at the end of that time an unsightly cicatrix will be the consequence. This result is accomplished in the following way:—one or two small openings in the thin violet-coloured integuments are the channels through which the matter is discharged. A more or less extended cavity exists under, produced by the breaking down of the gland and its surrounding cellular tissue. When the whole of this structure is broken down and evacuated, this surface presents granulations which have a tendency to skin over without adhering at all, or on other occasions only partially, to the superjacent thinned integuments. The consequence of this is an irregular puckered surface; and when, as is often the case, the subjacent tissue becomes adherent to the deeper-seated organs, the deformity is increased by a pitting. To prevent this aggravation, two modes may be resorted to. When the time for procuring the evacuation of such a tumor has arrived—when the integuments have become much thinned—the best mode of opening it is by applying the Vienna caustic paste to the part, taking care that the paste shall include the whole of the thinned structure. A fair and sufficient opening will be thus made; the evacuation will be more speedy, the remaining tissues will be healthy, and the cicatrix will be comparatively trifling. If, however, this have been neglected, or another course pursued—if the discharge be going on from one or more small points—if the integuments over the parts be very thin—then with scissors excise the whole of the violet integuments, and you may hope to lessen the deformity which would otherwise succeed to the disease. But much valuable time would probably be lost in the endeavour to heal the sinuses connected with the cavity; the various forms of iodine, in a more or less concentrated state, would have been applied to them, and the patient subjected to much suffering. And here I may state that after ample experience of such applications to these sinuses, I am decidedly of opinion that they occasion more pain and are much less efficacious than the nitrate of silver.

CANCER.

Definition.—Nature.—When the nature of a disease is unknown—when it presents much variety in appearance and symptoms, changing with the period of the disease, and the organ affected—it is perhaps impossible to give a precise definition, which shall comprehend the many changes of its existence, and embrace all its varieties. Such is cancer. In the present state of science cancer appears in a large majority of cases to consist in a diathesis, in virtue of which certain new structures are developed, which may be indefinitely extended, which tend to ulceration, and which lead to the destruction of life, either by interfering with some important function, or by producing general exhaustion. In other words, we may call the cancerous diathesis a constitutional disease, manifested by the deposition at one or more points of the economy of an abnormal product.

Whether the term cancer was introduced into medical science from a fancied

resemblance between the dilated veins which often stretch along under the integument of a cancerous tumor and the claws of a crab, or because the patient usually experiences a sensation which has been compared to that which would be produced by tearing or gnawing by the same animal, we shall not stop to inquire. It is sufficient for us that it is a well-understood term applied by the Greeks to certain tumors of the breast, and which in after times has been extended to similar tumors in other parts of the body. In preserving up to the present moment an expression so eminently vicious, the moderns have attached to it much more precise ideas than the ancients could, ignorant as they were of pathological anatomy. Still science is not as yet sufficiently advanced to enable us to resolve many questions relative to cancer, which, in many respects, unquestionably, is one of those diseases the history of which imperiously requires new observation and research. The structure of cancinomatous products is at the present moment a favourite object of investigation, and we may therefore hope that our knowledge of them will ere long be considerably extended.

Persons of both sexes are subject to it, but women most frequently; in the latter, from forty to fifty is the period of life during which it is most commonly observed; still the exceptions to this rule are many. In many cases we may observe what is known as a bilious temperament, a morose or melancholy character, a highly developed sensibility and irritability; whether these circumstances are true predispositons to cancer, or whether they should be considered only as proper to favour the action of an internal cause capable of producing the disease, is doubtful. We cannot tell what is the influence of age, sex, and constitution, upon the disease; we know only that in woman the return of the menstrual period exposes the cancerous tumor to a sort of erethism or periodical orgasm, under the influence of which its growth is greatly accelerated; and that when the function has completely ceased, the suppression of the hæmorrhage often impresses upon the disease a more rapid course.

Cancer is one of the most painful, the most incurable, and most frequent, of the diseases by which humanity is afflicted. Its course is always onwards—it never retrogrades; a cancerous tumor being, so far as I know, unsusceptible of resolution. It converts adjoining parts into a tissue like its own, and when left to itself, or even when art interposes, is almost always fatal.

Manifestation. — Most commonly, without known cause, sometimes as a consequence of violence, or slight irritation, a general or partial tumefaction is manifested in some organ, or as an independent tumor, which, from its size, its form, and its relations, can scarcely be confounded with any existing organ. Sometimes, from the first, the tumor is painful, sometimes so sensible that the slightest touch is insupportable, sometimes it is completely indolent, and only remarkable for its volume. In the latter case it may become very large before much pains are felt. Whatever the extent of their development, these tumors are usually hard, unequal, lobulated, and heavy; sometimes they are soft, elastic, and apparently fluctuating. So marked may they be, that the tumor has been mistaken for a cyst containing fluid; in this way a fungus hæmatodes of the breast and a pulpy testicle have been punctured. Left to itself, it increases, approaches the skin, adheres to it, produces many changes of colour, thins it, and ulceration follows. The peculiar appearance of the ulcer, when it occurs, and the lancinating character of the pains which accompany it, are regarded as sufficiently marked to enable us at all times to distinguish the disease; yet they are fallacious signs. An enormous cancer tumor has become the seat of gangrene, and the ulcer has healed, and an ulcer resting on a cancerous base may cicatrize. The lancinating pain is felt in other diseases than cancer, and certain internal cancerous masses may never ulcerate. It is therefore necessary to inquire at once into the anatomical characters which are peculiar to these diseases, as the only safe means of diagnosis.

Anatomical Characters. — Varieties. — The structures included under the term cancer are various, but in their course and their results there is considerable uniformity. The common *vascular sarcoma* of Abernethy presents an appearance not unlike that of a mass of fibrin which has coagulated in the vessels, lost a portion of its colouring matter, and become organised. A similar product is sometimes cellular, and in these cells a serous fluid is contained; this is the *cystic sarcoma* of the same author. In other cases the diseased tissues are granular, bearing a resemblance to the pancreas; this is the *pancreatic sarcoma* of the same author. When the morbid product is presented under the form of a greyish or whitish substance, exhibiting no trace of vessel or blood, frequently divided into lobules, by fibrous intersections, which grate under the scalpel, it is termed *scirrhus.* When it presents an appearance like the cancerous tubercle of the liver, it is termed *tuberculated sarcoma;* when it resembles the appearance of the mammary gland, it is termed *mammary sarcoma.* When the

substance resembles the substance of the brain, it is termed *encephaloid* or *medullary tissue.* And when this latter tissue softens, and at points acquires great vascularity, the vessels giving way, and blood being sometimes extravasated, and presenting a bloody fungous mass, it is termed fungus hæmatodes. Carswell divides carcinoma into two species; the distinction between which he founds upon the greater or less disposition to become organized; and supposing that to be well made out, it is a most important distinction, because their tendency to degenerate bears a very exact relation to their vascularity: those are *cephaloma* and *scirrhoma.* In the former he includes scirrhus, the pancreatic sarcoma of Abernethy, the tissu lardacé of French authors, the matière colloïde of Laennec, the gelatiniforme or aréolaire of Cruveilhier. In the latter he includes the common vascular or organised sarcoma, the mammary, and the medullary sarcoma of Abernethy. He admits, however, that it is often impossible to draw a distinct line of separation between them, and this we cannot be surprised at, when it is shewn, "that examples are not rare of scirrhus, medullary sarcoma, and fungus hæmatodes, originating in the same morbid state, and passing successively from one into another, in the order in which they are named." If this be so, those distinctions may appear to some persons of little importance. Yet if the curability of the disease be dependent to any extent on the time at which the remedy is applied, such distinctions must be desirable If, as some persons believe, the reproductive tendency varies with the particular structures, it is imperative upon us to endeavour to make out such distinctions as clearly as possible.

Müller makes a different arrangement of these structures. He distinguishes them into carcinoma simplex or scirrhus; carcinoma reticulare, which seems to be a variety of the former, the reticular arrangement being more decided,—it is, says he, as frequently seen, if not more so, in the female breast than carcinoma simplex; carcinoma alveolare, which is the cystic or cystiform of some authors, the aréolaire or gelatiniforme of Cruveilhier; carcinoma melanodes or melanosis; carcinoma medullare, which is the medullary sarcoma of Abernethy, encephaloid tissue of Laennec, spungoid inflammation of Burns, fungus hæmatodes of Hey, Wardrop, C. Bell, soft or spongy cancer of Roux, milt-like tumor of Monro, medullary fungus of Maunoir. The remaining variety he describes is carcinoma fasciculatum, which is very rare. The greater number of modern pathologists regard these various structures as non-analogous or heterologous formations; and if we regard heterologous formations as depending upon the presence of a structure which does not enter into the healthy composition of the body, we can scarcely object to the term as applied to these products. However, so great an authority as Müller regards them as analogous formations; he says the finest parts of these structures do not differ from parts of other innocent tissues, or primitive formations of embryo life. This may be very true, but do we find the same elements in combination in natural structures? I apprehend not; and therefore they are tissues which have no "analogue" in the healthy structures of the living body.

We shall limit our considerations to three classes of cancerous structures, scirrhoid, medullary and melanotic formations, of which the two former constitute, in a large proportion of cases, incurable diseases. We shall first describe scirrhoid and encephaloid diseases; space will not admit of our entering into the particular history of each of the morbid structures comprehended in the term cancer, and therefore we must be understood to apply our remarks more to a class than to species.

Scirrhoid structures.—Although the difficulties of definition be great, we may say that scirrhus is commonly presented in the form of a hard, and usually unique tumor, little sensible upon pressure; from time to time the seat of darting, lancinating pains, occurring without obvious cause, generally making very slow progress: rarely occurring in young persons. Sometimes appearing stationary for twenty or thirty years; at others, where it makes progress, it is still so slow that many years may pass without very sensible enlargement. Scirrhus has a marked predilection for what may be termed white tissues. Either it supervenes spontaneously, or succeeds to a congestion, from external or internal cause. It is most commonly presented at that period of life when the power of reproduction ceases. It is often manifested after long mental discomfort; its development seems to be favoured by inaction. Once formed it never retrogrades, and the affected part never resumes its former condition. In this respect it differs from simple induration resulting from chronic inflammation. It may be stationary for many years, determining no discomfort, but suddenly it manifests activity, and a cancerous mammary gland, which has been indolent for ten or fifteen years, becomes the seat of intense pain and rapid disorganization.

Anatomically. — Scirrhus, when cut

through, may present considerable variety in appearance; it may be very resistent, grating under the scalpel, of a bluish white or grey colour, and semi-pellucid. Its general appearance bears considerable similarity to that presented upon section in a radish. If carefully examined, we find it to be composed of two substances—one opaque, fibrous, forming intersections so as to constitute septa or areola, which contain another substance, which is more or less diaphanous—lard-like, horn-like, or semi-fluid: this may often be squeezed out. Sometimes those white septa extend beyond the tumor, and Sir C. Bell insisted much upon the influence they had in the reproduction of cancer. Unless all these radii were removed, relapse was, he believed, inevitable; this was also the opinion of Abernethy. Sir C. Bell believed that these septa were developed first, and that the softer matter was afterwards deposited in the spaces circumscribed by these septa. In scirrhus, before softening, the vascular system is at its minimum of development; Scarpa attempted to inject this structure, but he found that, though the arterial tissues immediately around were well injected, no injection penetrated into the tumor. Rouzet, after the most minute examination, could not discover in scirrhous structures any blood-vessels. Scirrhous rarely acquire the bulk of encephaloid or medullary tumors, nor do they possess their elasticity and decided lobular character. In some cases the existence of scirrhus in an organ produces atrophy; this is occasionally seen in the breast, the testicle, the spleen, and the kidneys; that is, it seems to excite the absorption of the cellular tissue of the organ. Scarpa believed that scirrhus is never primarily developed elsewhere than in the external conglomerate glands, the tegumentary and in certain portions of the mucous membrane;—the glands in which it is most frequently found are the mammary, the parotid, the testicle, the submaxillary and the lachrymal; the mucous membrane of the œsophagus, the stomach, the rectum, the vagina, the neck of the uterus, the larynx. This is the opinion of a man of great experience, but cases may be adduced in opposition to it, for this product has been seen on the pleura and other analogous situations. However, the cases are not, I think, sufficiently numerous to confirm that law of the development of scirrhus, which Scarpa laid down. When it extends, it gradually affects the adjoining tissues, slowly approaches the skin, adheres to it, but before ulceration takes place certain changes occur, it is generally softened, and assumes at some points an appearance somewhat like that of medullary fungus. When softening has proceeded to some extent, the physical characters of the structure are much changed; it becomes softened at many points, and assumes the appearance of a semi-transparent jelly, sometimes of a greyish colour, sometimes slightly tinged with blood. So that in many cases one or more cavities exist before the skin gives way. The skin soon reddens and cracks, which is the ordinary beginning of ulceration in scirrhus; the ulceration extends, the surface is irregular, often dry, greyish, red, or brown; at other times it is covered by fungous matter. If we cut through it, we see that the floor presents a fleshy appearance, very friable, easily broken down with the nail. Hæmorrhages are not frequent in ulcers succeeding to scirrhus, and when they occur are usually not abundant, unless an artery have given way.

Chemically.—The only very precise chemical analysis of scirrhus is that of Hecht fils, from which it resulted that scirrhus of the female breast yielded gelatine, fibrin, oleïne, some traces of albumen, and water, in about the following proportions:—

Albumen	2
Gelatine	20
Fibrin	20
Fatty matter (fluid)	10
Water, and loss	20

And from a similar analysis of scirrhus of the uterus, it resulted that it contained no albumen, but afforded gelatine, fibrin, and fatty matter, soluble in alcohol, in the following proportion:—

Water	35
Fatty matter	10
Fibrin	10
Gelatine	15

Analyses have also been given by Berzelius and Müller.

Medullary structures.—Medullary or encephaloid matter is, in colour and consistency, not unlike that of the brain of young children. Before softening has proceeded far, a section of the structure presents an almost homogeneous, pulpy matter; the colour is pale or slightly rosy, but it is never uniform; here and there redder points are discovered, and there the softening is more decided, as well as the vascularity; occasionally much darker points are observed, produced by the rupture of the very delicate blood-vessels of the structure, the blood being mixed up with the brain-like matter, and giving to it a reddish, brownish, or darkish character. In cases of icterus, the medullary colour has been seen of a yellowish character. Before any considerable change is produced, the colour is usually what I have described it. Like the substance of the brain it is reduced, by contact of air, to the condition of a semi-fluid pulp; like it, is miscible with cold water; like it is hardened by

alcohol and acids. It is, however, the fluid portion which is thus changed: this matter, between the first and second period, is milky; but then it cannot be obtained by compression, it is necessary to scrape the surface with a scalpel; at a later period it can be expressed by compression. This is the medullary or encephaloid matter—this it is which is found in veins, and may be squeezed out of them. These tumors may acquire great size. Abernethy describes a case where in each groin was a tumor as large as the head of an adult—the medullary tumors acquire the greatest bulk in the limbs. A case is stated by Olivier, where such a tumor on a woman's thigh attained the bulk of a man's body. In Gooch's case the size of the tumor may be estimated by the fact, that a line drawn directly from the elbow to the wrist, measured four feet (Cases, &c., p. 39.)

The opinion supported by many persons, that medullary structure is only an advanced stage in the development of scirrhoid structures is, I think, much too exclusive. We have seen that at an advanced period of their existence the differential characters are easily pointed out; in an earlier period these distinctions are less decided. The fineness of medullary tissue at its first stage may be equal to or greater than firm lard, and its vascularity is not much developed; at this time, though similar, they are not identical. The softening of the medullary structure is not like that of scirrhus. Trousseau and Leblanc say that the granules of medullary matter are larger and their consistence less than that of scirrhus; that under the knife medullary does not grate like scirrhous structure. It is true that the scirrhoid structures do in many cases undergo changes, which more or less completely identify them with medullary structures, but it is quite as true, that generally medullary structures are medullary ab initio.

Progress—Encephaloid structures grow with great rapidity. Cases are mentioned by Andral where, in internal organs, fourteen to thirty days only have elapsed between the occurrence of the first symptoms and a fatal termination of this disease. But these are unsatisfactory and inconclusive illustrations, because it is impossible to ascertain to what extent this disease was developed upon the occurrence of the earliest symptom. Still many long years may elapse; in the case described by Gooch 50 years. But there, again, we cannot say at what period the structure assumed an encephaloid character. At or near the surface, its progress is more rapid than when deeper seated; it is not usually a uniformly round tumor; as it increases it is irregular, and projects at one or many points, and in these points its consistency is diminished; there is an elastic softness which simulates fluctuation, the cutaneous veins are varicosed, the skin becomes erysipelatous, ulcerates, and red and bleeding fungous matter is developed; it then assumes the character of fungus hamætodes. At this time, if we make a section of the structure, it presents a rosy colour, much deeper at some points than others; when ulceration takes place hæmorrhage is frequent, and portions of the mass come away in a half decomposed state. A thin, fetid, sanious fluid escapes, and the progress of the disease is rapid: many years may have passed before ulceration, sometimes a few weeks or even a few days are then all that remain of life; large masses sometimes come away, and large excavations succeed to them, but it is very rare that any attempt to cicatrise is shown. Abernethy thought that as these structures increased in bulk, they rather pushed aside than converted the adjoining tissue into their own character; and this he considered the great distinction between medullary sarcoma and scirrhus. This opinion is too exclusive, because medullary structure may be propagated by continuity, may convert bone, but most constantly it causes the absorption of these organs; venous parietes seem to give way easily, arterial tumors often remain long unaffected in the midst of masses of encephaloid matter. Still arteries will now and then give way, and occasion fatal hæmorrhage, and veins will sometimes resist for a long time. Velpeau describes a case of a medullary mass in the axilla which ulcerated, and the patient lost nine pounds of blood in twelve days. A similar case is mentioned by Abernethy. Fibrous tissues, such as aponeuroses and tendons, seem to resist effectually, and sometimes constitute an effectual barrier to the extension of the disease. Besides extension by contiguity the disease may invade distant tissues—a pulpy testicle will affect the lumbar glands with a disease like itself; now whether this be by the transport of medullary matter from one organ to the other through the medium of the veins or lymphatics, or whether a simple irritation be communicated, and, the system being deteriorated by the disease, carcinomatous matter is deposited there, may admit of question. So much seems evident, the disease of the testicle may exist for a long time without affecting the lumbar glands, and merely does so before the system gives indication of being impregnated with the disease. It is true, the general infection of the system may be a consequence of absorption of the morbid matter. In scirrhus we do not often find masses of the disease in different organs.

LECTURES ON THE PATHOLOGY OF MORGAGNI.

By Dr. Mayo.

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Lecture I.

The progression of medical science is by no means uniform. It has accessions of energy with intermediate periods of inertness. Meanwhile, the materials on which this science must be constructed, accumulate with a much more continuous rate of progression; whether as contained in those monographs which particularly enrich our English literature, or massed into collections of cases.

It may be doubted whether the use to which these materials are applied corresponds with their magnitude and extent.

Now the most legitimate and productive use to which such treasures are subservient, is the formation through their means, by careful analyses, of general principles. But the most common use to which they are actually applied, is that of furnishing arguments in support of some preconceived opinion. They are thus compelled to give verisimilitude to some conjecture, instead of being referred to as a test, by the diligent application of which its truth or falsehood may be ascertained.

There is a third use of the materials afforded by these records, to which I would call the attention of my hearers. It is that of carefully perusing and commenting upon cases, without any preconceived hypothesis in the procedure. It is a very wholesome exercise of the mind, though one which may be abused, to expatiate freely over the fields of knowledge, and to take our chance for results. The aspect which a given case assumes, when we look at it with a view to gain whatever information it may bestow, and that in which it may present itself, when we would support or may be compelled to abandon our own preconceived views by its means, are very different; and though the latter relation may be more favourable to discovery, the former, as it is more unbiassed, is more favourable to truth.

The records to which I shall refer in the present lecture, are those of J. Baptist Morgagni. The tone of truth exhibited by that eminent physician is conspicuous in the circumstance that he was contented to hand down to posterity what he had witnessed, rather than what he had done—the facts of other pathologists rather than his own; a form of humility equally observable in a celebrated pathologist of the present day. Valsalva was to Morgagni what the practice of M. Lerminier has subsequently been to Andral.

I will first request your attention to cases drawn from that part of Morgagni's great work which relates to diseases of the thorax.

The following case constitutes the twelfth article in the sixteenth letter of the second book:—

'A woman of 70 years of age, of a sanguineous temperament, and fat, while she was constantly attending upon her son, who had a pleuritic fever, being seized with a pleurisy herself, got rid of it after many days, without any expectoration of matter: but a sense of great oppression in the left part of the thorax immediately succeeded to the pleurisy; so that she could not breathe in bed, unless she lay on her *right* side (see p. 7). She spat up a catarrhous matter, was extremely thirsty, and had a swelling in her lower limbs. To these disorders, about four months after, was added a violent diarrhœa, which was troublesome to her frequently every day, and lasted for three months. In all this space, a fever returned at a certain period, with cold, heat, and pain of the head. All these continuing, she died at the end of the seventh month from the beginning of the disorder.

The belly being opened, the liver was of a somewhat cineritious colour, but in other respects sound. The other viscera were also sound, except that in the pancreas an artery was found to have acquired a bony hardness. In the right cavity of the thorax was no disorder at all, but the left was full of water, in which some kind of filaments, as it were, swam. Yet the lungs in the water were unhurt, only a little flaccid. In the right ventricle of the heart was a large polypous concretion, which extended itself from thence into the vena cava.'

Now we have here a case of pleurisy described as terminating at a point which, in modern pathology, represents only one stage of the disorder, and followed by phenomena, apparently unanticipated, which, again, in modern pathology, constitute another and distinct stage of the same disorder.

She gets rid, it is said, of the pleurisy, but a sense of great oppression immediately succeeds; so that she cannot breathe in bed unless she lie on the *left* side. The effusion, meanwhile, into the cavity of the pleura, which dissection disclosed, and which would now be regarded as a stage of the disorder, does not appear to have been anticipated. It will not be a useless

labour to consider the views of pathologists from that period up to the present time, in regard to this point, and to consider what practical advantage time and farther experience, and the progress of science, may have given to us.

If we look to our own Sydenham, we shall find pleuritis, in his sense of the word, to have been what we term pleuropneumonia. Beside "the dolor vehemens punctorius," characterizing the disease, the patient labouring under pleurisy, is, according to him, afflicted with expectoration of blood; and unless the disorder is successfully treated by early depletion, an abscess *apostema* takes place, and pus is poured into the cavity of the thorax. Hectic fever supervenes, and the patient dies tabid.

We look in vain for a recognition here of the serous effusion into the cavity of the pleura, to which, in our modern experience, pleurisy tends, which succeeds to that "dolor punctorius" by which the disease commences, and which is itself removable by appropriate measures.

In the long and valuable account which Boerhaave and his commentator give us of pleurisy, there is the same dwelling upon the inflamed state of the pleura at the commencement of the disease, the same avoidance of the serous effusion, which equally belongs to genuine pleurisy. They refer, with well deserved respect, to Sydenham's views, and describe the abscess, in which, according to them also, pleurisy sometimes terminates, as occurring between the pleura pulmonalis and the substance of the lungs. In their view of the disease, the termination of pleurisy by empyema is fatal. Indeed, when the last-mentioned supposition is realized—that is, when the effusion results from an abscess between the pleura and the substance of the lungs—empyema must be attended by pneumothorax.

On this state, Boerhaave expresses himself as follows:—

"Abscessus ille pure proprio rumpitur unde pus stillat in cava pectoris, ulcus novo pure facto et accumulato totum cavum replet, totum corpus consumit, inde phthisis."

Now in no one of these authors—Boerhaave, Vanswieten, or Sydenham—do we find any recognition of a tendency to serous effusion, as the stage next in succession to the inflammation of pleuritis; a recognition essential to the successful treatment of the case quoted by me from Morgagni, and of that class of cases which it represents. Meanwhile I may observe, that although these pathologists have, in their descriptions of pleurisy, excluded some important symptoms, and generally viewed it as co-existent with pneumonia, they are plainly speaking of a disease which contains that combination of symptoms to which we affix the denomination of pleurisy.

No clearer light is thrown upon the subject by the works of Frederick Hoffman. We are informed in his observations, on his own authority and that of ancient physicians, that an abscess ensues upon pleurisy and pneumonia; but he adverts to no other deposit in the thorax, as ensuing upon the former disease. The case which I have extracted from Morgagni is discussed in his work, conformably with these prevalent views of his period. It is called pleurisy, and dissection proves that it deserved that name; but it is described in relation rather to pneumonia than to inflammation of the pleura. "A woman is seized with pleurisy, and gets rid of it without any expectoration." Now why should she have expectoration of matter in the course of pleurisy?

I do not, indeed, find any very definite recognition of the law of pleurisy, under which it tends to serous effusion into the cavity of the pleura, before the nosologieal work of Dr. Cullen. This eminent person, whose services to science were better estimated in his own age than they are by us, lays down a form of pleuritis which he terms "hydrothoracica." This distinction he illustrates by a case in Morgagni; and it must be admitted that he takes a more specific view of that case than its author, who views the serous effusion into the thorax, in that case, rather in certain supposed relations to the vesicular structure of the lungs than to their investing membrane; the case being one of pleuropneumonia. It constitutes the thirty-fourth article of the twentieth letter, second book.

About the same time, however, indications of more definite views on this part of the subject of pleurisy are to be found in an article on the different kinds or species of inflammation, and of the causes to which those differences may be ascribed, by James C. Smith, M.D. Fellow of the College of Physicians, in the 2d volume of the Medical Communications; an article which gives Dr. Smith just claims to contest with M. Bichat a part of the discovery of the elementary tissues of the system.

'Diaphanous membranes, says Dr. Smith (whose use of that term is synonymous with serous membranes), in consequence of inflammation, are found thickened, opaque, sloughy, with a gelatinous or purulent exudation on their surface; at other times, the cavities lined by those membranes are filled by a turbid serum, with filament floating in it. But what is now said of these membranes in general, will

best be illustrated, he observes, by particular examples. In the pleurisy, the pleura is sometimes the only part affected by inflammation; at other times, and what is the more common case, the pleura is only partially affected, in consequence of a phlegmon or abscess on some exterior part of the lungs. The symptoms which distinguish these two kinds of pleurisy are not sufficiently known. In the first, the pain and soreness of the chest are probably more general, but without the laborious and oppressive breathing of the peripneumony. In the true pleurisy, the short cough and acute pungent pain in the side, almost preventing inspiration, sufficiently mark the disease.'

Now here we have pleuropneumonia, which appears to be the pleurisy of Sydenham and Boerhaave, distinguished from pleuritis vera; and the inherent tendency of the membrane, in the latter case, to pour out into the cavity which it lines a turbid serum, distinctly marked.

The improvement in pathology which might be expected to succeed an improvement in pathological anatomy, such as the views of Bichat and Carmichael Smith had afforded, exhibits itself in the history of pleurisy furnished by M. Pinel, at the beginning of this century.

After speaking of the albuminous exudation, which he supposes to take place upon the inflamed surface of the pleura, according to the general laws of such membranes, and which at first, and while small in quantity, tends to produce adhesion of the surfaces in contact, he goes on to observe, that, under certain circumstances of the inflamed state of the pleura, this exudation greatly increases. Meanwhile, the exhaled fluid remaining unabsorbed, a large effusion takes place in the shut sac, and, unavoidably accumulating there, causes severe mischief. The presence of this effusion is known by the following signs: — The patient, who, during the early days of the disease, could not lie on the affected side, can now lie on no other; on his least movement, he perceives a fluid which oppresses him and prevents respiration, and percussion gives an obscure sound on that side.

The last of these remarks opens to us, perhaps, the first notice in a nosological work of a process of research, which, more than any other, has cleared up this page in the history of pleuritis. Many years before Pinel wrote, Avenbrugger had published his very important application of a new sense to the investigation of thoracic disease, in a series of dry but masterly aphorisms, which Corvisart had translated and introduced into French practice, and which had obtained the sanction of Maximilian Stoll.

The name of Avenbrugger is less heard of in this country than it deserves to be. The brilliant discoveries which another physician has since made, in the application of the phenomena of sound to the diagnosis of disease, have unjustly given him the fee simple, as it were, of the whole subject.

Avenbrugger's first aphorism is, "thorax sani hominis sonat cum percutitur;" and now that we are in possession of the pathological superstructure which he has built upon this aphorism, we may feel surprised that the fact should not have been noticed before, or, if noticed, should not have suggested the probability that some deviations from health might be commensurate with some alterations of sound in that part.

The moment such a conjecture should occur to the mind of a pathologist, we might suppose that it would suggest to him the prosecution of that enterprise which Avenbrugger has successfully conducted. So easy is it to recognize the facility of a discovery when it has been made!

Now in the case of pleurisy quoted from Morgagni, percussion would have assured us that a morbid change had taken place in the cavity of the thorax connected with the absence of resonance. But would it also have assured us of the deposit of fluid which had also occurred?

This question may be considered in relation to other instances.

When Corvisart, in his translation of Avenbrugger, is estimating the value of percussion from the errors of pathologists in certain forms of disease previous to his discovery, he adduces two cases; one of effusion of liquids into the cavity of the thorax through a rent in the œsophagus; the other, that of a large albuminous deposit taking place in one side of the chest, and a serous effusion into the other. Both cases from Boerhaave; both, entirely baffling conjecture during the life-time of the patients. Now though it be granted that percussion might have discovered an altered state of the contents of the thorax in these cases, something beyond percussion seems requisite to the diagnosis whether there is solidification or a fluid deposit. Certainly, in the case last alluded to, percussion would not have informed us in which cavity of the thorax a fluid, in which a solid had been located.

Let us suppose a case of pleurisy answering to Sydenham's description of that disease; in other words, complicated with pneumonia; bloody and purulent expectoration being present, as well as the direct phenomenon of pleuritic inflammation. The lungs may in this case have passed into a state of solidification, and there may also exist serous effusion

into the cavity of the pleura. How far will percussion aid us in assigning the distinct site of these two forms of disease? Percussion may proclaim the diminution of resonance, but not the cause of that change.

This consideration, gentlemen, brings before us the important addition to our knowledge of pleurisy effected by the discoveries of M. Laennec.

Supplying the deficiencies here noticed, enabling us, by a new application of the faculty of hearing, to detect serous exudations into the cavity of the pleura at a period at which they may be removed by absorption, or evacuated by paracentesis, the stethoscope would on this ground, if this were its only ground, deserve the gratitude of all who are interested in medical science. It is true, that the necessity of illustrating the sounds which it detects, by other and more familiar sounds, has occasioned some quaintness in the language, which its employers have been compelled to use: so that the word œgophony, or a sound similar to the bleating of a goat, suggests ludicrous ideas. How remarkably the sound which this term suggests has been made subservient to the discovery of water in the cavity of the pleura, is known to most of you. Indeed, this class of observations has been pushed so far, that it becomes us to be on our guard against making them the exclusive principle of diagnosis. However this may be, I think that the progression of our discoveries in regard to those diseases, and not to these alone, is such as warrants us in hoping that the science of medicine is not the half science, the merely conjectural procedure, with the imputation of which we are frequently taunted, and of which we sometimes admit the truth, to our own detriment, with a false and mischievous liberality.

The discovery of a morbid state performed with precision by means combined agreeably to physical laws, and the removal of that state with the precision with which mercury effects removal by absorption, or surgical measures by operation, might claim high philosophic merit on the most ordinary principles on which such merit is adjudged. But, when it is considered that, in these measures, we are dealing with the subtle principle of life, and working with all this precision and confidence against agents endued with a destructive power, which, even while we antagonise them, we cannot develop, we are not unauthorised in claiming a high place for the remedial discoveries which we may effect.

The above remarks in regard to the prevention and cure of serous exudations in pleurisy would be important, if they were only an accident of the disease, as earlier pathologists seem to have considered them. I cannot help here adverting to the authority of M. Laennec, in favour of the supposition, that it is a proprium of the disease to produce this state. "It is doubtful," says M. Laennec, "whether any pleurisy exist, in which there is simple secretion of a false membrane." In another place, he expresses his objection to the form of words, "pleurisy terminating in effusion," (the very language quoted by me from Morgagni), as involving an erroneous hypothesis of the disease. I am convinced," says he, "that the effusion of serum is contemporaneous with the inflammation of all serous membranes."

I now proceed to call your attention to another form of pulmonary disease.

'A butcher (says Morgagni, book ii. letter 21, article 19), 78 years old, of a tall stature, and a pallid and brown complexion, who had been before troubled with a spitting of blood, had begun to feel an internal and pungent pain, a little below the left nipple, four days before he was admitted into the hospital.

His pulse was not only unequal, but quick, and gave very little resistance to the finger that felt it; he had a frequent cough attended with a barking sound; his expectorated matter was thick, and had in it a kind of polypous particle of a white colour; his respiration was difficult; he could lie only on his back. The blood which he lost on the day he came into the hospital, that is, on the fifth day of the disease, viz. eight ounces, had no more serum than could be be contained in one spoon: this serum was turbid; but on the top of the blood was a yellow crust, marked with livid points on the surface, which was hollow and two inches deep, so that it resisted the knife, and the crassamentum below was separated into a number of grumous concretions, as it were. Blood afterwards appeared in the expectorated matter. As the disease did not at all remit, blood was again taken on the seventh day. The crust then appeared thin; the serum, which was of a golden colour, was of a just quantity, and the crassamentum of a natural firmness. The spitting being diminished, and all other circumstances continuing, the patient being no longer able to speak, turned himself upon the right side, and, while he lay thereon, died placidly, and without any stertor, on the eighth day. When we opened the thorax, the day after, we found the right lobe of the lungs adhering to the pleura, almost in every part, but in such a manner that it might easily be separated without injuring its membrane, except the upper part of the superior lobule; for this part was grown together with the pleura, and within its substance,

which was of a livid hue, contained many small round cells, each of them being comprehended in its proper follicle, so that, as far as I could observe, there was no opening onwards, they being smooth internally, and quite empty. But the upper lobule of the left lobe of the lungs had no disorder at all, only that it abounded with a great quantity of serous moisture. Yet the lower was heavy and red, and appeared to have its whole surface changed into a substance like liver. This lobule adhered in some places to the pleura, and was covered here and there with a broad and white portion of a kind of mucous membrane, with which kind of membrane, only red, under a little turbid serum, that surface of the diaphragm also was covered, which corresponded with this lobe. Morgagni further observes, that the pleura investing the thorax and diaphragm was not only of a cartilaginous and bony hardness, but was in fact made up of laminæ of bony matter, and from the surface of it, that was turned towards the thorax, very frequent bony tubercles protuberated, especially where the bony laminæ were, being of a hemisperical figure, and about the size of a vetch. And though these appearances were seen much more on the right than the left side, yet there also the pleura in many places came up to the description above; but in no part whatever was it at all red, or had it the least appearance of inflammation. The pericardium contained a small quantity of blood of a reddish colour.'

The facts disclosed by dissection in this case are—1st, the existence of pleurisy, principally ancient, partly more recent; the former modified by a peculiar osseous deposit. 2ndly, empty cysts in the upper lobule of the left lung; the remains probably of some former pulmonary inflammation. 3rdly, pneumonia, in the right lung; the lower lobe of it in a state of red hepatisation; the upper lobe pervaded by a great quantity of serous moisture. Now, in the case first extracted from Morgagni, we have considered the progression of medical science in regard to pleurisy: the present case suggests a similar line of inquiry in regard to the indications in pneumonia, which, so far as this disease may be considered acute, was the predominating affection.

The practical question, which more than any other must have presented itself, both when this patient entered the hospital and afterwards, related to the application of the lancet; and how was this question, at that period, to be settled? The state of the pulse, the degree of dyspnœa, the quality of the sputa, and the facility with which they could be brought up, constituted through many ages the grounds on which the existence and stages of pulmonary inflammation have been determined: and all these signs bore a very indirect reference to the pathological condition of the organ affected, in respect to the period and extent of depletion. In the case before us, the physician, guided by the dyspnœa, the expectoration, and the pleuritic pain, takes blood on the 4th day of the attack, and the state in which the blood is found justifies the measure; after two more days blood is again taken. The patient dies the next day. Now on the above grounds the physician might have felt assured as to the necessity of venesection. But did they afford him any certainty as to the period up to which it was appropriate? The vacancy in diagnosis had to be supplied by some increased acquaintance with the state of parts.

Let us turn to a case of pneumonia, conducted by an experienced and sagacious physician of the beginning of this century, and the end of the last one—Dr. Parry, of Bath.

Miss H., aged three years and a-half, of a very full habit, but accustomed to exercise, was seized on the 20th with a slight sore throat, shortness of breathing, and cough; attended by inconsiderable fever, but without any pain of the thorax or abdomen. On that day she took an emetic, and, under the care of a skilful physician, had leeches and a blister applied to the throat, was freely purged, and took antimonial medicines. "I saw her," (says Dr. P.) in consultation, on the 24th, in the evening. There was some preternatural heat of the body; her tongue was moist and little furred; her pulse 150, tolerably full, but soft; respiration 75 in the minute, almost wholly by the diaphragm, and with the grunting expectoration observable in high degrees of dyspnœa. She coughed occasionally, and seemed to bring up some expectoration; (this means of diagnosis, it is to be observed, is generally denied us at so early an age); she seemed placid, and when asked, denied that she had pain any where. The recumbent position increased the quickness of her respiration, but there was no apparent difference in this or other respects, whether she lay on her back or either side. Her bowels had been freely open in the course of the day. Leeches to the chest, blisters to the thighs, and a continuance of the medicines, was ordered.

25th, at 10 A. M.—Pulse 100, weak and irregular; respiration 88, with noise; lying on her left side quite sensible, but with much lividness of skin.

Ammonia ordered freely, and a blister: death next day.

Dissection.—Pleura pulmonalis adhering to the costalis, but no effusion or marks of recent inflammation. Right lobe of

lungs preternaturally solid; left lobe still more so—the latter sunk in water The whole, when cut into, exhibited little appearance of air passing out of cells, which is common in healthy states of the lungs. Heart and pericardium free from disease. Liver rather large; both it and other abdominal viscera sound *.

It was evident, observes Dr. Parry, discussing this disease,—from the quickness of respiration relative to the pulse, that there was some obstruction to the power of inspiration. This obstruction could not arise from pain any where, for none had been felt. Therefore there was no pleuritic inflammation. It was probably not owing to that obscure disease, pericarditis; for she seemed to lie equally well on both sides. It seemed too rapid and too violent for hydrothorax. It did not arise from any obstruction below the diaphragm; for she breathed chiefly by the diaphragm. The disorder was not bronchitis or effusion into the bronchial cells, because there was little cough, and no wheezing or rattling. On the whole I concluded it to arise from sanguineous compression of the bronchial cells, such as is usually found to exist in cases of fatal peripneumony.

The symptoms, according to this judicious retrospect, had led this eminent physician to a correct view of the case. But how far did they guide him as to the extent of depletion requisite for the preventing its passage into the hepatized condition, which asphyxiated the patient, or suggest to him evidence that the disorder had reached that state?

We are here again indebted to the discoveries of our continental brethren, who have framed an hypothesis, certainly well based on morbid anatomy, which gives us, through the use of the stethoscope, or by the immediate application of the ear, the wished-for criterion in a certain degree and extent; and tells us that inflammation is taking place, in that sense of the word in which it involves the necessity of depletion, while we hear certain sounds which it describes, fancifully indeed, but graphically, under the name of small crepitation or small crepitating ronchus; and that these sounds continue to be audible, until the substance of the lungs is gorged by serous exudation, and becomes impenetrable to air. Here auscultation suggests a definite point, up to which, other symptoms conspiring, venesection may be carried: and this is an important addition to our previous therapeutics, though auscultation should be incapable of telling us how far, in certain cases, abstraction of blood may be serviceable beyond that point.

In this respect, however, it also affords reasonable grounds for decision. In telling us that a hepatized condition of the lungs has taken place, it suggests at least a probability that the vessels of the inflamed part have relieved themselves; and that a stage of the disease has been arrived at, at which the absorption of this deposit, and not its prevention, must be the main object of our measures. Surely these views afford a more definite ground for the cessation of depletion than the theories which so long exclusively influenced our diagnosis; agreeably to which the lancet is forbidden, principally lest it should prevent expectoration; a ground of treatment practically useful, but affording no precise criteria.

It is, indeed, worthy of remark how far M. Laennec and his followers have advanced the certainty and accuracy of other practical diagnostics in pneumonia—particularly the state of the expectoration. Largely as former pathologists had been compelled to depend upon this symptom, I find in none of them such accurate accounts of its various modes, distinguishing the stages of pneumonia, as are afforded by M. Laennec and Andral.

After giving a most characteristic description of the sputa improperly termed bilious by Stoll and his disciples, M. Laennec goes on to observe, "if sputa of that kind existed constantly in pneumonia, we should require no other sign to indicate its presence. But the peculiar stethoscopic diagnosis laid down by M. L. is not at present superseded by 'the constant existence' of any other class of symptoms.

I do not wish to enter farther into any pathological system than as it may concern the cases, from Morgagni, which I have submitted to you. Otherwise I must have pressed upon your attention the phenomena discovered by Laennec, through which, in pleurisy, the subsidence of serous effusion is attested; and those which in pneumonia attest the return of air into the obstructed vesicles of the lungs. Beautiful and eminently instructive as these observations are, and not less so those which relate to morbid states of the heart, to dilatation of that organ, to valvular disease, and to pericarditis, they have not met with universal assent in this country. The cause of this is, perhaps, in some degree attributable to the dissentients themselves; but in some respects to the followers of Laennec. And as the worst enemies of a man or a discovery are injudicious friends, it may be as well to consider, briefly, the latter subject. The errors to which the application of these truths is liable are of various kinds.

Excessive subtlety of distinction, or a subtlety more than commensurate with the number of facts on which such dis-

* Dr, Parry's Posthumous Works, vol. ii. p 84.

tinctions are based, are observed in the writings of some whose names it would be invidious to mention. Others treat of the stethoscopic symptoms in their description of the general disease, somewhat to the exclusion of those symptoms which do not form a part of the peculiar views of Laennec and Avenbrugger. Others disregard what I may venture to call the *empirical* view of the disease.

It may, indeed, seem strange that in this place I should venture to recommend the empirical method of diagnosis. But besides, and sometimes perhaps in advance of, that knowledge which has been systematised and reduced to rule, there must ever remain a portion of our capital, in the shape of conjecture; of surmises; of views, which the habit of attentively scanning disease generates in the accustomed eye, without referring them to definite grounds.

Now this kind of knowledge, which must constitute a large portion of the stock of every man who has studied his profession for the purpose of practising it, is apt to look very unscientific in comparison with a well-constructed hypothesis (though after all it is essential to the structure of general views): and the young practitioner who finds himself in possession of the stethoscopic scheme, or any other scheme, is apt to consider his studies perfected, and his aptitude for practice ensured, so far forth.

It is certainly most true, that a scheme based upon morbid anatomy, as this is, must be less mischievous even in its abuse than the air-spun hypotheses of a Brown or even of a Darwyn. Yet such has certainly been its abuse in the hands of sciolists.

One additional error, I may also suggest, in stethoscopic inquirers, as indisposing many intelligent lookers-on to the acceptance of stethoscopic truths; the more so, as this error is connected with some of the most brilliant discoveries made through these means. A method, which palpably detects symptoms indicative of a fatal termination of disease, is so far apt, in ill-conducted minds, to lead to a negligent and ineffective use of remedies. When we have discovered that a man will die, unless certain consequents should not in his case follow certain antecedents, and when our discovery suggests no specific means of preventing this sequence, we are apt to treat the patient very much as if it were indifferent to him what length of time may elapse between the detection of the antecedent, and the occurrence of the consequent.

A physician perfectly acquainted with the general principles of treatment applicable to tubercular disease, but perfectly ignorant of the decisive evidence which the application of the stethoscope to the supra-spinal fossa or the subclavicular portion, or the tap on the clavicle, can afford, has far more of that sanguine feeling in regard to remedies, which often increases their success, than the ordinary stethoscopic inquirer. This is, indeed, one of the first results of the discovery of a new principle of diagnosis. Time compels a more cautious use of it, and often suggests exceptions to its apparent truth.

The best cure, indeed, for this tendency, if morbid anatomy in some degree produce it, is to be found in morbid anatomy itself;—by the observation of instances, in which intercurrent and occasional disease has closed the life of those who had been living, and might, as far as we know, have continued to live, for some time longer under mortal disease. A collection of such autopsies would be a valuable contribution.

But the most effectual and decisive method of releasing the subject of inflammatory disease from undue subserviency to any pathological hypothesis, would be found in the carrying out of that historical view of epidemic periods which Sydenham projected and commenced in his history of fever. If his system could be prosecuted by any combination of minds, so that the succession of epidemic fevers should be placed before us in their relation to the intercurrent phlegmasiæ, it would be impossible that any limited method of diagnosis should attain undue predominancy; in regard, at least, to the latter diseases. Thus the moment we should begin to lay down our stethoscopic diagnosis of pneumonia, we should then be reminded, that this must have a reference to a much larger view of the subject, which it is our business also to contemplate, namely, the relation in which this attack may stand to the general febrile influences of the period.

Thus, for example, Sydenham, speaking of the pleurisy which prevailed in the year 1675, observes, "All those who laboured under that pleurisy, as soon as they were seized by it, complained of very severe pain in the head, back, and limbs; which were the most common and ordinary symptoms of those fevers that were in existence before the pleurisies came in, and continued to prevail, after these had ceased."

In no cases, it must be admitted, has the stethoscope already done better service than where it has supplied the means of detecting phlegmasiæ of the thorax lurking under fever; but, under the circumstances above supposed, the fever may be described as lurking under the phlegmasia.

But, for the prosecution of Sydenham's large views, more time is required than can be spared by ordinary men from the direct practice of their profession.

It may some time or other occur to some government of this country, that the country might itself be benefited by the removal of this difficulty; that to free some members of our profession from the necessity of devoting themselves to private practice, and to impose upon them, in return, the task of reporting authentically and systematically the great phenomena of national disease, would go far to place, on a solid basis, that science, in which, more than in any other, except their religion, mankind are interested.

NATURE AND TREATMENT OF SCARLATINA.

To the Editor of the Medical Gazette.

Sir,

Amongst the many places visited within the last few months by that protæan disease—scarlatina, this parish and its vicinity may be placed, and as in some respects the visitation in question may, I believe, be considered more than commonly interesting, I shall not, perhaps, be expected to apologize for troubling you with this notice of it. The motive I especially have for requesting the favour of its insertion in your valuable journal is, that, as many other neighbourhoods have had their share of the disease, it would be particularly interesting to ascertain, by a comparison of accounts, whether it has been uniform in its character, or whether, on the contrary, it has presented differences. I have reason to believe it has, and that a description of these differences would form a page in the history of the disorder not a little instructive to the medical observer. Under a hope of this communication inviting others more worthy, I will proceed to state that the first instances of the malady were in two children of the same family, of three and five years old, in whom the symptoms were so slight that they were allowed the run of the house. Sore throat was not complained of, and the eruption itself was only observable when favoured in its evolution by the warmth of bed. I did not happen to see the eruption, and should not have suspected the existence of scarlatina, but for some effects that ensued. One had mesenteric disorder, the other dropsical effusion, with bloody urine.

The third case was that of a child in arms, and was so slight that no advice was required for it.

The fourth, the father of the child, was one of great severity, but of regular development. It was accompanied by a general sprinkling of white miliary vesicles, and an attack of pleurisy.

The next cases, four in number, in children, took place in two adjoining cottages; one had pleurisy, and three glandular swellings—in two of them proceeding to suppuration. One of the latter had suffered much in cutting its earlier teeth, and was now developing the back molares. It was seized with convulsions, followed up by an intractable form of phrenitis, under which it sunk, offering upon examination a very hardened state of the pons varolii, in connexion with slight ventricular effusion.

Hitherto the disease had been limited to an area of this village of about one hundred yards, but it now began to make its appearance here, and in the adjoining parish of Cheam, without reference to proximity of dwelling or apparent intercommunication, and as it proceeded, gained intensity of character as well as fickleness of form.

Its chief varieties were—first, when the infecting principle struck upon the nervous system so forcibly that no reaction was permitted; the surface was pale as marble, the eye lustrous and clear, pupils acting, though languidly, and the pulse a mere flutter, only to be counted by the nicest touch. Four such occurred, and all died within forty-eight hours of the seizure. They were all teething children; two, of six months old, were strong and healthy; the third, of ten months, was of a highly scrofulous stock, and the fourth was under twelve months, with previous diarrhœa, from being brought up by hand. The attack of one of the former was ushered in by convulsions, from which it rallied, but died on a recurrence of the convulsion the following day. In one only did any eruption appear, and then as a few livid petechiæ on the back and loins.

The second variety was when the reaction took place, bringing with it ulceration of the mucous surface of the mouth, fauces, pharynx, and nares, which furnished an immense discharge of viscid, acrid mucus, accompanied

by extensive external glandular enlargements, great irritative fever, and delirium. As might be expected, the eruption in this variety was neither universal in extent, nor regular in progress.

The third variety consisted of many similar cases, some of which, under favourable circumstances, went through the ordinary course; most, however, partaking of this peculiarity, namely, an indisposition or inability to properly develop or maintain the eruption.

I might add a fourth variety, under which I would class those incomplete efforts of the epidemic principle which are manifested in high inflammation of the fauces and pharynx, occurring in adults, and generally in such as had had the disease at an earlier period of life. These had none of the other attending or after symptoms of scarlatina, and may serve to shew the connecting link between this disease and common inflammatory sore throat.

With respect to the treatment, I need hardly say how futile must be the endeavour, common though it be, to apply one plan to a state of things, distinguished, it is true, by one name, but yet so remarkable for its varying nature. This tendency to simplification is inviting, and to say the least of it, convenient; it saves a great deal of time and thought, but unfortunately it too often leads us astray. The error is due, I believe, in a great measure, to a disposition to view these diseases of specific origin as diseases *per se*, not only as specific in origin, but throughout specific in character, and requiring for their cure a specific remedy. In thus detaching them in our minds far from the influence of the ordinary diseased actions obtaining in other inflammatory disorders, we lose sight of the common but important principles by which their intensity becomes determined, and their course regulated. We should be wiser in regarding them as strictly inflammatory disorders not presenting to us phenomena wholly specific in character, but simply modified by a pervading specific principle. Hence, instead of being amenable to any specific mode of treatment, for which we vainly seek, they will be found obedient to the influence of rules long since established, and which we daily and hourly employ in the management of other more simple inflammatory disorders. Let the advocate of ammonia, for example, blindly pursue his course through a visitation like the one in question, and where will be the confidence he reposed in his remedy? Let the great bleeder—the favourer of cold affusion—the confider in the chlorides—or, in short, the champion of any single remedy or symptom, do likewise, and he must, in the nature of things, be disappointed. Each, however, is the patron of a principle useful in its place. To find this place is the object of the practitioner.

The first class of cases were treated with ammonia, frictions, and warm stimulating baths; and though ineffectually, I know not, were they to occur to me again, what more I could do. Whenever depression of the vital powers exists to so great an extent, from whatever cause, there must be great danger; but when this depression arises from the presence of a poison in the system, till, by a necessary chain of processes, it is either neutralized or eliminated, there can be but little hope.

The second class consists of cases which, commencing with symptoms of depression, and therefore, at the onset, requiring the treatment of the foregoing class, but soon running into the opposite state of high action, were met with bleeding, general or topical, in relation to the power of the patient; emetics, purgatives, frequent doses of calomel or emetic tartar; sponging the body with warm or cold water, and syringing the tonsils first with warm water, and then with weak solutions of the mineral acids* (especially the nitro-muriatic).

This was when summoned to my patient sufficiently early to foresee the probable course of his symptoms; but when called in, as happened but too frequently among the poor, only to encounter the formidable train of symptoms above described, I had but to balance the probabilities of death resulting from established disease on the one hand, and from active remedies on the other; knowing well, that, doing something or doing nothing, a large share of vital power would be required to conduct the sufferer through the struggle. The chances were unfavourable, and a large proportion of these cases proved fatal.

The third class required very simple

* The chlorides I tried till I was almost persuaded they did harm: they, at least, did no good.

treatment, one point, in particular, being necessary to attend to—viz. to favour the manifestation and maintenance of the eruption by sufficient warmth; its tendency, owing to the damp cool state of the atmosphere, being only partially to appear, and early to recede.

The fourth required only the common antiphlogistic treatment.

In the above divisions may be seen the principal symptoms of a severe form of the disease; but the chief peculiarity of the recent visitation was, that so large a proportion of cases, severe and mild, was followed by the affections generally known as "sequelæ of scarlatina," and which were more violent and alarming than usual. In some instances, convalescence from the fever was not attained; a febrile state continuing after the departure of the eruption, associated with aphthous ulceration of the mucous membrane of the mouth and fauces, extending along the Eustachian tube to the ear and meatus auditorius externus. Glandular induration, and imperfect suppuration; diminished urinary secretion; anasarca, and effusion into the serous cavities.

Here the general inflammatory state of the system lapsed into inflammation of one or more of the internal organs. Antiphlogistic treatment was successful.

In others, recovery seemed to be taking place auspiciously; two or three weeks elapsing from the disappearance of the last symptoms of the disorder, when progress was arrested by the sudden occurrence of alarming symptoms, of which the following case will present a picture:—

G. H., æt. 5, convalescent from an attack of the second form of the disease, and whom I found sitting in a high chair, supported by pillows, and leaning forwards, with his arms folded upon the table. He was panting, rather than breathing. His countenance was anxious; complexion pale. He had livid circles round the eyes, and blueness of the lips. His skin was cold, and bedewed with moisture, more like the "cholera sweat" than any thing else I had seen. Pulse fluttering; superficial veins tumid; frequent vomiting of viscid green bile, and bilious diarrhœa. Urinary secretion almost suppressed, and, when tested, depositing a large proportion of albumen. Slight œdema of the ankles; enlargement and fluctuation of the abdomen.

In this case, the system was evidently labouring under severe congestion of the thoracic and abdominal viscera.

A similar state of congestion took place in many other convalescents, varying in its intensity and in its selection of the organ whereon to display its effects. In some, its chief seat was the stomach alone, or with the rest of the alimentary canal; as shewn by want of appetite or rejection of the food, and by diarrhœa, and sometimes by vomiting and purging of blood. In others, the organ it selected was the brain, or rather head, for the scalp, together with the face and neck, were enormously swollen, from cellular effusion. The patient lay in a heavy sleep or stupor, from which he could with difficulty be aroused, and into which he immediately relapsed. The breathing slow; the pulse indistinct, labouring, and often under fifty.

Whatever was the degree of the congestion, or wherever its seat, I always remarked, in connection with it, two symptoms in particular—viz. more or less dropsical effusion, not only of the cellular membrane but also of the cavities of the body, and a defective and vitiated urinary excretion. In some cases the deficiency amounted almost to suppression, and in all, the urine contained a greater or less share of the unconverted elements of the blood, from simple albumen to the colouring particles.

The active sympathy existing between the skin and the kidneys, whether in health or disease, is too well known for me to insist upon; nor shall I remark upon an inefficient development of the eruption of scarlatina leading to derangement of the renal function; but I will proceed to observe, that upon this latter derangement I build my explanation of the remarkable phenomena of their congestive conditions, and therefrom also deduce the principles of my treatment.

I employ the word congestive, as the one best calculated to explain the nature of the derangement; for I believe it to be an accumulation or gathering of the blood in the central parts of the body, through an exhaustion or depression of the vital powers, whereby the propelling organs of the blood are not supplied with their accustomed stimulus. Though

this is the first effect induced, I yet believe it of no very long duration. The very impediment creates the necessity for a new and powerful action to overcome it. Thus venous congestion beeomes converted into proportionate high arterial action; in other words, inflammation with all its consequences ensue.

That this conversion from the congestive to the inflammatory state is not theoretical, the two following results of post-mortems will prove, were proof necessary to show the truth of so plain a position:—

No. 1. was the first case of the kind that occurred. I had prescribed frequent doses of calomel with only partial success. The existing cause of its death was, I believe, the mismanagement of its parents, in allowing it to partake of a dinner of greens and bacon. The train of symptoms preceding death, and which had existed for nearly a fortnight better and worse, were of the same kind as those of G. H.

Thorax.—Both pleuræ contained a small quantity of turbid fluid. Lungs highly congested and infiltrated. Their lobes were adherent, and portions of their posterior parts were hepatized.

Abdomen.—Serum in small quantity; liver large, congested and hard. Kidneys organically changed, being of almost eartilaginous hardness.

This state of the kidneys I look upon as the natural result of the uncorreeted congestion of them; for the progress of symptoms had been tedious; the treatment having, I presume, influenced the diseased actions sufficiently to prolong life, but no more.

2.—J. H. æt. 6, I left convalescent from a slight attack of scarlatina. After a period of three weeks I was again requested to see him. I found him in a languid state, breathing quiekly and heavily; pulse intermitting, extremities cold. The account given me was that he had never regained his appetite, and had passed but little water, which was high coloured. Two days prior to my being called in, he had been seized with shortness of breath, which had continued up to the moment of my visit, in ten hours after which he expired.

Post-mortem.—Thorax.—About two ounces of water in each pleural cavity; lungs did not collapse sufficiently, owing to their partial infiltration; middle lobe of the right lung inflamed and hepatized; adherent to the other lobes, and presenting on its costal surface patches of recent lymph.

Abdomen.—The peritoneum contained about half a pint of water. Lymph was found, adhering slightly to its surface, and was observed also between some of the convolutions of the bowels. The portal system of vessels was full; the liver and kidneys were congested; the latter especially, for when incised, their structure was instantly concealed by the quantity of blood that eseaped from the divided vessels.

In this case, it will be remarked, no treatment was employed.

The predisposing eauses of this congestive condition of the viscera are two-fold; 1stly, the debility naturally consequent upon recent diseased actions. 2dly, the gradual augmentation and deterioration of the blood through an impeded and vitiated renal secretion.

The exciting causes are cold, with damp especially, or cold alone—errors in diet—or, in short, any thing capable of producing an adequate shock upon the nervous system.

The treatment of these cases of congestion consisted in the use of 2 or 3 gr. doses of ealomel every four or six hours, alternated with one or two drops of the oil of juniper in solution. The results were an immediate and large increase of the urinary excretion, and as sudden an equalization of the circulatory balance.

Wherever two remedies of power are employed in the treatment of a case, it becomes a fair question whether one of them might not have sufficed? or, to which of them in particular are the effects produced due? I reply that these two given together assist in proeuring the end in view, and that it depends upon the stage to which the case has arrived whieh of them is the more influential. The power of ealomel in eases of eongestion, no one is prepared to question; the power of oil of juniper may not so soon be admitted; but the peculiarity of the state in question gives to the latter its power; for so soon as the kidneys are stimulated into action, so soon do the formidable signs of the state depart; and I know no other diuretie (having tried many) that will, under this state of things, coerce the kidneys to resume their function; 'tis

true these organs perform their office imperfectly at first, inasmuch as, though they detach a large quantity of fluid, yet they suffer the escape of elemental parts of the blood not usually allowed to pass. The colouring of the blood soon disappears, but albumen remains, often for weeks, and may be detected in some cases after perfect health, to all outward appearance, has been restored. The benefit derivable from this remedy is in direct ratio to the earliness of its employment, for if this point in its application be omitted, the congestion will become converted into inflammation, when, of course, it and all other stimulating remedies would be hurtful.

With respect to calomel, I have seen in more than one instance of this diseased state how great is its power when carried to the production of ptyalism; and I may observe, in passing, that in some of these cases this effect has been produced with astonishing readiness. Urine of a highly bloody aspect has been in the space of a few hours changed into a perfectly healthy condition; the other symptoms have as readily yielded, and health in a few days been restored. But it is not, in children in particular, always practicable, were it at all times safe, to effect ptyalism; therefore, any other remedy, capable of working the same degree of good, must be considered a valuable one—such have I found the oil of juniper.

If I thought, sir, you might not deem it requisite for me to apologize for addressing you, I feel quite sure an apology is due from me now for detaining you so long, but the subject has been to me one of great interest, and has therefore betrayed me into greater length than I at first intended.

I am, sir,
Yours very obediently,
WILLINGTON CLARK.

Sutton, Surrey, Jan. 4, 1840.

P.S. For confirmation of my opinion of the inflammatory nature of scarlatina, I have great pleasure in referring your readers to the valuable papers upon the same subject by Mr. Hammond, p. 130, vol. 14, of the Med. Gazette, and by Mr. J. A. Hingeston, p. 408 of the same vol.

MENINGITIS.

To the Editor of the Medical Gazette.

SIR,

THE following case of meningitis offers nothing new in its progress or treatment, but as an instance of recovery from an extreme stage of this most formidable affection; and as an encouragement not to despair, even at the eleventh hour, of the effect of active treatment upon acute disease in young subjects, it may perhaps be deemed worthy of a place in your excellent journal.

On Sunday, June 23rd, I was called to a case of gastritis from teething in an infant; I found the mother in deep distress, expecting every minute the death of another daughter, aged 14, the subject of the following case. I was told that the case had been considered hopeless since the preceding Friday, and the history of its progress was communicated to me as follows. The young lady had been well up to Friday the 14th; she had then complained of languor and debility, with slight head-ache; on the Sunday these symptoms had assumed an important character, vomiting had occurred, and the pallor of her countenance had given place to a flushed appearance, then succeeded imperfect vision, delirium, convulsions, &c. I will not advert to the treatment adopted up to the moment of my taking charge of the case, further than to state, that depletion had not been considered expedient, but I will proceed to describe the state of the patient at that time, Sunday the 23rd. She was tossing her arms and body in convulsive struggles about the bed, her moans at the same time expressing severe pain, her countenance was death-like, cold and pale, excepting one spot on the left cheek, which was flushed, a dark livid appearance surrounded the eyes, which were open, fixed, and filmy, the sclerotic, on close examination, discovering a number of vessels carrying red blood. The pupils contracted and insensible to light, the tongue was protruded from the mouth, and was held firmly in that situation by the teeth convulsively closed upon it, the extremities were cold, and the hands of a livid blue colour; no pulse was perceptible at either wrist, but the carotids gave a thrilling, frequent beat, and the head was extremely hot.

I could give no hope of recovery from such a state, but I felt some confidence in advising that the head (which was covered with a profusion of hair) should be shaved, and submitted to the effect of an evaporating lotion, in the hope of mitigating the dreadful and continued convulsions. The relief thus obtained was so marked and rapid, that I considered it my duty to urge the trial of further remedies. Thirty leeches were applied to the front and top of the head, and bled freely, the effect being so far from an increase of debility, that in the evening, finding the extremities less cold, the countenance less expressive of suffering, and the convulsions still relieved, I applied more leeches to the temples. I was now enabled to get a little calomel into the mouth, which was swallowed, the jaw relaxed its hold upon the tongue, and during that night and the day following, I had the gratification to see the juice from several pottles of strawberries swallowed with avidity; the tongue was moist and loaded, some sleep was obtained during the night for a few minutes at a time, and at all times there was a state of comparative rest and quiet; some slight subsultus of the muscles of the arms was however very observable.

Monday, 24th.—Bowels had acted freely but involuntarily, as was the case with the relief from the bladder; the pulse was now perceptible as a fine thread in the left wrist; the juice of grapes and strawberries still appeared most grateful.

Contin. Calomel, 6ta. hora.

Tuesday, 25th.—A better night, extremities now warm, but still the eyes had a fixed glassy look, and the pupils were contracted; bowels had acted freely, and with more consciousness; pulse thready, and varying from 100 to 130. She was now able to express, in low broken whispers, that she had severe pain in the forehead; she was partially conscious of the presence of those around her.

App. Hirudines, viii. temp. App. Empl. Lyttæ nuchæ. Contin. Cal.

In this state, with but slight variation, she continued until Friday the 28th, when a marked change in her symptoms threw aside all the hopes I began to entertain; subsultus to an alarming degree came on in the arms and legs, the pulse sank to an almost imperceptible beat, ranging from 130 to 160, with great variation; the countenance indicated intense suffering, and in the evening violent convulsions ensued, which continued with increasing force, and at decreasing intervals, until during the night they succeeded each other every ten minutes, and were of that fearful character as to exceed any suffering I had ever witnessed, not excepting the paroxysms of hydrophobia, to which, from the violent ejection of the saliva, they bore a remarkable resemblance; they were not aggravated, however, by the pouring out or swallowing of liquids; the poor sufferer was conscious of the returns of the attacks, calling out, "Oh! they are coming! the agony! the agony!" During the short intervals she referred this pain to the forehead; the paroxysms seemed only to give way from complete exhaustion, and I certainly hoped that some one of them would terminate her sufferings. In the intervals she lay exhausted and quiet, with slightly stertorous breathing. The pupils were now dilated, and partially sensible to light; the bowels and bladder acted involuntarily during the convulsions. What remained to be done? Immediate relief had followed depletion a few days before, and the constitution had had the benefit of sleep and rest, and food. Was the present fearful state the effect of debility or of reaction? I determined to make another effort, and took 4 ounces of blood from the temporal artery in full stream. Shortly after, having retired to another room, I was summoned hurriedly to my patient, and found that in her struggles the artery had burst forth afresh, and bled, I should say, to about 8 ounces. From that moment the paroxysms diminished in force, and the intervals became more extended, until they subsided entirely. Some slight progress was daily made until the 9th of July, in the night of which the convulsions returned with great violence, accompanied with screaming. The bowels having been rather torpid, I gave an active dose of castor-oil, which effected great relief, and the attacks again disappeared. I have already trespassed so much on your valuable space, that I will forbear to detail the daily symptoms in my patient's pro-

gress towards recovery, and will bring the case to a close as briefly as may be. The character of the pulse throughout was extremely varying; the eyes became acutely sensible of light, and a strong knitting of the brows was constantly observed. The sight was gradually restored. Food was taken with some difficulty, from an aphthous state of the fauces, probably induced by the calomel; the bowels acted freely throughout, and entire power over their action, as well as that of the bladder, was resumed shortly after the last convulsive attack. One remarkable symptom gave great distress during the recovery—namely, a sensation, constant, but at times aggravated, of falling from the top to the bottom of the bed. Leeches were still occasionally had recourse to, and the head was kept wetted with a spirit lotion from time to time. Food was taken with relish, and consisted of fruit, milk and soda-water, bread and tea. As to medicine, the calomel was discontinued as the amendment proceeded, and an occasional mild aperient, with the constant use of an alkaline saline when the fauces became affected, were the only remedies given. Under this treatment, the expression of the countenance gradually resumed its natural appearance, consciousness of all and every thing around was restored, and in the beginning of September my young patient was enabled to undertake a long journey, which I had recommended both for change of air and place.

I will only add one or two reflections. 1st. It is clear, that, in the above case, effusion to any considerable extent did not take place, or coma would have resulted; and perhaps to this circumstance may be attributed the happy effect of the treatment employed. Still, however, I consider that partial and slight effusion did occur (probably at the base of the brain), giving rise to the distressing sensations of falling to which I have alluded, and for which I ought to have stated that mercurial ointment was rubbed on the bare surface of the head, and a blister applied to the arm.

2dly. The recovery, whilst it shews to what an extent vascular congestion and inflammatory action may proceed in young subjects, without inducing fatal structural lesion, gives proof of the good effect of active depletion in such cases, even where external circumstances do not seem to warrant a hope.

I am, sir, with much respect,
Your obedient servant,
JOHN PRICHARD.

Leamington, Dec. 1, 1839.

ON THE NUCLEI OF THE BLOOD DISCS.

(*From a Correspondent.*)

MR. JOHN QUEKETT, a student at the London Hospital, has recently discovered that the blood discs of the human subject give out from their interior a number of globular bodies, which are small at first, and subsequently increase in size; whilst the discs from which these globules have escaped, which may be termed the parent discs, soon afterwards rapidly dilate, and as rapidly disappear from the field of view, leaving the little globules sole possessors of it. These bodies, he imagines, may be the nuclei of the blood discs, and from the circumstance of there being more than one globule given off from each disc, he concludes that the central nucleus is a gelatinous fluid, which, when exuded from the parent disc, forms into globules from the circumstance of its not being miscible with the liquid in which the discs are floating. A more detailed account of this interesting fact will appear in some future page of this periodical.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

A Treatise on the Diseases of Infants, founded on recent Clinical Observations and Investigations in Pathological Anatomy, made at the Hospice des Enfans Trouvés; with a Dissertation on the Viability of the Child. By C. M. BILLARD, D.M. &c. &c. With Notes, by Dr. OLLIVIER, of Angers. Translated from the Third French Edition, with an appendix, by JAMES STEWART, M.D. London, Churchill, 1839. 8vo. pp. 620.

[Continued from page 519.]

APHTHÆ.—The commentators upon the works of the ancient writers have tried

in vain to determine to what alteration of tissue aphthæ are to be referred. Some physicians, as Boerhaave, Van Swieten, Armstrong, and Underwood, have applied this term to ulcers of the mouth, whatever may have been their primitive form, and hence, no doubt, much practical confusion has arisen. Bichat regarded the question as an interesting one, but did not venture a positive opinion upon it. Billard believes that aphthæ consist of an inflammation of the muciparous follicles of the mouth. He gives a detailed and minute opinion of the progressive alterations which take place in these follicles in the course of the disease, and the consequently different characters which aphthæ present in different cases. The treatment advised does not differ from that which practitioners commonly adopt. Under the titles of ulcerous, pustular, and gangrenous stomatitis, M. Billard describes different forms of ulceration of the mouth, which are not uncommon in new-born infants and children of a few years old. The sections on the development and diseases of the teeth, the alimentary canal, and various kinds of congenital herniæ, are well worth the student's attention.

Diseases of the Larynx and Trachea.—M. Billard briefly mentions a condition of these parts, which, without having reference to any lesion of the mucous membrane, still merits the notice of physicians, and especially of accoucheurs. In infants, the larynx and trachea are often obstructed by a quantity of mucus, by which the establishment of respiration is impeded. The cry of the child is husky and incomplete. "The trifling effects," says M. B., "of this accumulation are but of short duration: a few efforts of inspiration and expiration are sufficient to render the cry free and perfect." Such is generally the case, but we have seen several instances where the life of a delicate and feeble infant was endangered by the impediment thus offered to free respiration. This state, then, should not be too lightly regarded; "the accoucheur may assist the discharge of this mucosity with the fingers, or a feather introduced into the entrance of the larynx, where it usually adheres.

Croup.—The remote causes of this disease appear to be the same as those of laryngitis, or bronchial catarrh, but there still remains the difficulty of explaining satisfactorily the immediate cause of the formation of the false membrane which occurs in the affection. Billard states very accurately that there exists, as it were, but a degree between the thick tenacious, filamentous mucosity with which inflamed mucous membranes cover themselves, and the membranous exudation of croup. The membrane of croup presents nearly the same chemical elements as this mucosity, in which fibrin predominates. The puriform mucosity of catarrh, the false membrane of croup, and the excretion of muguet, appear to be but alterations of the same secretion, and vary only with respect to their form and the parts they occupy. "Before the membrane of croup appears, the mucous membrane is always much inflamed, red, and gorged with blood. The subjacent tissue also participates in this injection; and when the inflamed membrane is at the same time the seat of sanguineous exhalation, this exhalation is seen to be accompanied or followed by pellicular concretions, from which it is to be inferred that croup is a catarrhal phlegmasia; but that the blood destined to the secretion of mucosity, is, in the case under consideration, concentrated in greater abundance, or rendered plastic by inflammation, and imparts to the mucosity that portion of its composition which concretes the quickest — that is, the fibrin; whence arises the striæ, pellicles, and white patches, with which the mucous membranes affected with muguet or croup are covered." Upon these very interesting and still perplexing pathological questions of the mode of formation, the nature, and the varieties of the so-called false membrane of croup, we refer our readers to the admirable and elaborate work of Valentin*. M. Billard's description, which we have just given, will not always apply; for sometimes the mucous membrane beneath the concretion is paler than natural, and without any trace of inflammation. It appears, indeed, from the testimony of the best pathologists, that there are no constant and characteristic appearances either in the condition of the mucous membrane or in the newly-formed false membrane.

* Recherches Historiques et Pratiques sur le Croup, par Louis Valentin. Paris, 1812.

Upon another point, to which M. Billard does not refer, but which is of much importance pathologically, the greatest contrariety of opinion has and does still exist—namely, is the false membrane of croup organized, or is it not? We believe we are correct in asserting that the prevailing opinion of modern pathologists is, that it is not organized. We find but little in the brief remarks of Billard, as to the symptoms and treatment of croup, to arrest our attention. His sketch of either is not very satisfactory. His use of calomel, we may observe, exceeds even the "heroic" doses of some of our English practitioners. He "has never employed calomel except in doses of 18 or 20 grains in twenty-four hours, and has found it sufficient to produce the results intended." We are cautioned to give purgative injections during the mercurial treatment, because, if constipation should exist, there is a great risk of salivation. Highly as we think of the power of calomel in arresting the disposition to the formation of false membranes, and in seconding the effects of bleeding, we should be very unwilling to push it to the extent here mentioned, in young infants. Passing over the section on diseases of the thoracic portion of the respiratory apparatus, in which there is, however, much instructive matter, which our limits forbid us to touch upon, we arrive at some very interesting comments upon the "establishment of the independent circulation," which we venture to assume will excite the attention of most of our senior readers, and correct the mistaken ideas of students who may have placed too implicit confidence in the assertions of some physiological "authorities" of the day. M. Billard has studied with the greatest care the changes which occur in the heart, ductus arteriosus, ductus venosus, and umbilical arteries, during the first days after birth; and the following is an abstract of his conclusions as to

1st. *The period of the obliteration of the fœtal openings.*—In nineteen children, aged one day, the foramen ovale was completely open in fourteen; in two its obliteration had begun; in two it was entirely closed. In the same children the ductus arteriosus was free, and filled with blood in thirteen. Its obliteration had commenced in four; in the remainder it was completely obliterated. The umbilical arteries were still open near their junction with the iliac arteries, but their calibre was narrowed by a very remarkable thickening in their walls. In all these children the umbilical vein and ductus venosus were free, and the latter was most generally gorged with blood.

Infants of the age of two days.—In fifteen out of twenty-two the foramen ovale was perfectly open; obliterated in three; closed in four. In thirteen of these children the ductus arteriosus was still open; in six the obliteration had commenced; in three it was obliterated. In all the umbilical arteries were obliterated to a greater or less extent, but the umbilical vein and ductus venosus, though empty and flattened, would not allow of the passage of a moderate-sized stilette. Thus, then, it is shewn that in most instances the foramen ovale and ductus arteriosus are not obliterated on the second day after birth, although the child may enjoy independent life. The same examinations were made in children of three, four, and five days old, and it was found that even at five days after birth the fœtal openings remained free in a number of children, none of whom exhibited any peculiar symptoms which appeared to have their seat in the vascular system. On the eighth day the fœtal openings are usually obliterated, but they may yet be found open even at that period. Even on the twelfth and fifteenth day, and in the third week, the foramen ovale or ductus arteriosus may still be open without the child having any particular symptom.

Mode of obliteration of the fœtal opening.—When the arrangement which gradually occurs in the foramen ovale from the earliest moments of conception until the period of birth is examined, it will be perceived that the form of this opening, and the disposition of the surrounding parts, and particularly that of the Eustachian valve, are such that the blood, which at first flows without any obstacle from one auricle to the other, by degrees experiences some difficulty in its passage. Thus the first modification in the organization of the heart forces the blood to change its course; this fluid is itself inert, is under the immediate dependence of the moving power which projects and directs it through the proper passage. If this be so, it must also follow that in those

parts which the blood leaves, an anatomieal modification occurs, which changes the form and modifies the action of these organs, and produces, in the blood whieh flows through them, a change of direction. Now, if the unbilical arteries and the arterial duct are examined, in proportion as they become obliterated it will be seen that their walls gradually become thickened. The thickening of the umbilieal arteries is more remarkable at the point of insertion at the umbilicus, at which part they exhibit a kind of swelling which very materially affects the calibre of the artery, and this swelling appears to be the result of a speeies of hypertrophy of the yellow, elastic, fibrous tissue: whenee it follows that the artery at this part has a contractile force superior to the dilating power of the blood propelled by the iliac arteries. Two conditions, therefore, cause the blood after birth to leave the course it had while in the uterus:—1st, the establishment of respiration and the pulmonary eirculation:—2ndly, the modification of texture oeeurring in the umbilieal arteries. The same changes also oeeur in the ductus arteriosus. These observations of M. Billard's are confirmed by those previously made by Dr. Berndt, of Vienna, Professor of Legal Medieine, relative to the changes whieh the ductus arteriosus undergoes after birth—ehanges on whieh the German professor has founded his most conelusive proofs of the persistance of life after the birth of the child. The history of the closure of the fœtal vessels has also been considered by Careano, Trew, &e.* The obliteration of the vein and duct does not occur in the same manner: these vessels exhibit no remarkable thickening of their walls. The moment the funis is cut, the vein is no longer suseeptible of reeeiving blood in its calibre, at least except by regurgitation from the vena cava. The sides eollapse and approach eaeh other; they thus come in eontact, and the passage is at last obliterated. M. Billard ingeniously observes, that if it be neeessary that the foramen ovale and duetus arteriosus should undergo organie ehanges for their obliteration, it will be easily understood that nature may prepare these modifieations either prematurely or tardily; hence the causes of the obliteration of the fœtal openings from the first in some children, and the persistance of the foramen ovale and ductus arteriosus in others, to a period far removed from birth. Hence also the necessity of a greater or less time in most cases for the completion of this obliteration. In this manner can be explained the irregularities of the period of the complete establishment of the independent circulation, without the necessity of considering them as the cause or effect of certain diseases of the heart or lungs. The accomplishment of these phenomena of transition must doubtless be attended with an incomplete oxygenation of blood, since all this fluid which the heart propels to the different parts of the body has not passed through the lungs. But, is it necessary that the blood of an infant just born should be oxygenated, equally with that whieh passes through the arteries of an adult? Would it not rather appear that the tender frame of a newborn child ought not to receive blood possessing too much stimulating properties; that the materials of nutrition should not be too suddenly charged with exciting prineiples, the action of whieh on the organs of an infant may be injurious to its health, and to the progressive establishment of independent life. The lungs, too, would be exposed to fatal congestions, if the pulmonary arteries should suddenly throw into them all the blood which flows into the heart. The ductus arteriosus, by permitting the blood to pass through it, assists the respiratory organs, the congested state of which will not permit the air to arrive freely in the cells. The establishment of independent life is therefore actually promoted by the continuance of fœtal life. Thus, then, there is a eonnection between the organization and disposition of parts, and the exercise of their funetions; and they follow in a regular order, and by transitions prepared by nature, to the end that no sudden and unexpected change may interrupt the order and harmony of the phenomena of life. If the fœtal openings remain permanent beyond the period indicated, then cyanosis, or the blue disease, results as the eonsequence of impeded oxygenation of the blood.

Diseases of the Cerebro-Spinal apparatus developed after birth.—Passive

* See the article of Dr. R. Arrowsmith in the Journ. Hebdom. de Méd. t. iii. 1829.

congestions of the cerebro-spinal apparatus are very common in infants at birth. This arises from the abundance of vessels, the slowness of the circulation, and the influence of respiration on the spinal and cerebral circulation. The length of the labour, the necessary tractions in certain manœuvres, the difficulty with which respiration is established, the changes which the circulation undergoes, explain why this apparatus is so often the seat of sanguineous congestion, varying from simple injection of the meninges to true apoplexy. By the general term, apoplexy in new-born children, is meant various degrees of cerebral congestion, and generally, children dying in an apoplectic state do not, in a post-mortem examination, exhibit the effusion of blood which usually constitutes the disease in adults. Injection of the meninges, of the medulla, and of the brain, is so common, in infants at birth, that M. Billard regards it as a natural rather than as a pathological state. "It is found in most dead bodies: vascular injection, and even effusion of blood at the inferior and posterior extremity of the spine, are very frequent. I have often seen it without its having given rise, during life, to any appreciable symptom." If the injection is continued too long, it will soon produce an exudation on the surface of the meninges, and the blood which is the product of this exhalation is ordinarily coagulated in a greater or less quantity, impressing the brain and spinal marrow, and causing the state of stupor to follow which is characteristic of apoplexy. Upon the subject of convulsions, M. Billard is very brief, and unless we are much mistaken, he is hasty, and even decidedly wrong, in his analogical conclusion, "that the convulsions of children, whatever be their form or degree, whether known as spasms, cramps, twitchings, &c., all arise from cerebral or spinal meningitis." "This opinion," says M. Billard, "has been fully demonstrated by M. Brachet, of Lyons*." With all possible respect for M. Billard and M. Brachet, we hold a very different doctrine. We believe that the convulsions of infants are, at least as frequently independent of, as dependent upon, any inflammatory affection of the brain or spinal marrow.

Of late years this subject has been well considered in this country, and we refer to the works of Mr. North* and Dr. Marshall Hall,† with the firm conviction that our readers will find, both in the arguments and facts of these writers, quite sufficient to induce them to reject the sweeping pathological conclusion of M. Billard, which, if regarded as an unerring and invariable guide to the mode of practice to be adopted in all cases of convulsive affection of infants, will not unfrequently lead to the adoption of bleeding, calomel, and starvation, when a very opposite plan of treatment is required. We cannot refrain, too, from directing the attention of our readers to an excellent paper of Dr. Gooch's‡, which, although not immediately applicable to the subject of convulsions of infants, is closely allied to it. For the few other topics discussed by M. Billard, we must refer to the work itself. The "appendix by the translator" contains many judicious reflections upon different statements of the author, besides several important additions. We are perfectly aware of the high reputation M. Billard's work possessed on the continent. We doubt whether, as "a treatise on the diseases of infants," it will be so highly estimated in this country. His talent and industry deserves our warmest praise, but if he had applied them more to an attentive consideration of the symptoms of disease, and the effects of remedies, and less to the elaborate, and, we think not unfrequently tedious account, of the slightest change of structure discovered upon dissection, he would, in our opinion, have employed both his talent and time in a more profitable and more attractive manner to the majority of readers, whether practitioners or students. The translation merits a favourable notice. It is entirely free from those half French, half English phrases, which, either from the affectation or ignorance of translators, so generally offend the eye and perplex the sense.

* Mémoires sur les causes des convulsions chez les enfans.

* Practical observations on the convulsions of infants. By John North. 1826.

† Researches on the morbid and curative effects of loss of blood. By Marshall Hall, M.D., F.R.S.E., &c. 1830.

‡ An account of some of the most important diseases peculiar to women. Chap. vi. "Of some symptoms in children erroneously attributed to congestion of the brain." 1829.

MEDICAL GAZETTE.

Friday, January 10, 1840.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

BILLS OF MORTALITY.—LONDON AND HAMBURGH.

When things have come to their worst, we have the proverbial consolation that they must mend—and this is just the case with the London Bills of Mortality. The trifling improvements from time to time effected in their composition, the omission of such heads as "rising of the lights," and "planet-struck," and the grand discovery made by their framers, of the existence of such a thing as disease of the heart, have been succeeded (like a lighting up before death) by a fatal deterioration. It would not be going too far to say that the bills of mortality are hastening to their decease, and perishing by a cold gangrene. In plainer English, one-third of the deaths in the London bills are set down to "unknown causes!" Matters have gone on from bad to worse; formerly the searchers did their office sufficiently ill; and now the medical practitioners, on whom their duty has devolved, forget to assign any cause of death in one case out of three. This discreditable item has increased most surprisingly; thus, in 1833, out of 26,577 deaths, only 887 were set down to "unknown causes;" whereas in 1839, among 16,685 deaths, 5,673 appear under that head. The bill of mortality for Hamburgh, in the year 1838, is now before us,* and does not contain a single death attributed to an unknown cause.

On comparing the London and Hamburgh bills, a hasty observer would be apt to conclude, that the former was the more healthy city, beyond all credible proportion; for while Hamburgh, with a population of 120,000, had 5,298 deaths in 1838, London, with a population of more than 1,500,000, had only 16,685 deaths in 1839. So that London would seem to be four times as healthy, or to have only one quarter of the deaths to the same number of inhabitants. The explanation of the paradox is, that many parishes in London send no account to the bills of mortality, and that many deaths are unregistered in the parishes included in the bills. Hence, it is obvious that the Hamburgh bills are far superior to the London ones in accuracy, but it is by no means made out that the metropolis of England is superior to the Hanse Town in salubrity. If, indeed, it should turn out that in London the bulk of the population are better fed and lodged than in Hamburgh, which we believe to be the case, it might appear that our faulty bills have yet a smack of truth about them, in their indications of a smaller mortality; but they cannot be admitted as evidence on which to found so cheering a conclusion*.

To show the superiority of the Hamburgh registers, it might be sufficient to mention that, while in our last yearly bill all the deaths are disposed under 54 heads, excluding casualties and unknown causes, at Hamburgh the number is 81, excluding casualties; yet it is plain enough that the metropolis of these islands, (not to say of the world,)

* In the "Zeitschrift fur die gesammte Medicin," for September, 1839.

* It appears from the first annual report of the Registrar-general in England, that the deaths in London from July 1837 to July 1838 were 53,597. The population in 1831 was 1,595,000, and in in 1837 was, probably, 1,690,700; hence the mortality was 1 in 31½.—*Dr. Alison on the Management of the Poor in Scotland.*

This proportion, though greater than was formerly conjectured, is far smaller than at Hamburgh. We have probably, indeed, understated the population of Hamburgh at 120,000; but it ought to be more than 160,000 to place it on a level with London in point of salubrity. In the appendix to the First Poor-Law Report, the population of Hamburgh is stated to have been 130,000 in the year 1832. Supposing it to have been 137,800 in 1838, the mortality was 1 in 26.

must afford a greater variety of disease than the free town of Hamburgh. In Dr. Aikin's delightful story of "Eyes and no Eyes," two lads take the same walk over heath and meadow; but while William comes home with his handkerchief full of curiosities, and his head overflowing with new ideas, Robert, though he saw some of the same sights, "did not take any particular notice of them." Now, we will not pay London practitioners so poor a compliment as to suppose that they distinguish fewer objects than their Hamburgh brethren, though in a larger field; nor do we imagine that they would complain of the Hanse Town doctors in the style of Robert in the tale, and cry out, "Oh! he is so tedious, always stopping to look at this thing and that!"—but it is certainly strange that in triple the number of deaths they should find fewer causes of decease. The true solution of the enigma appears to be, that in Hamburgh the bills are drawn up for learned eyes, while in London they are intended merely for the laity, and anything is put down which will satisfy their facile criticism. John Clarke used to say in his lectures that the convulsions of infants were ascribed to nervous irritation merely to satisfy the child's mother, while the cause was really unknown. "Why, upon my word, Madam, as far as I have been able to judge, I think it arises from *nervous irritation*."—Do you, indeed? ah, well, now I am satisfied, as I know what it is." *

This is somewhat too severe, as there is certainly no reason why convulsions should not arise from an increase of nervous irritability; but when we find, as we do in the last yearly bill, 677 deaths put down to so comprehensive a head as inflammation, (the genus being thus substituted for innumerable species) it is impossible to refrain from supposing that the disease was named merely to get rid of the by-standers, and without thought of professional review.

Let us attempt a more detailed comparison between the real and imaginary bills, or those of Hamburgh and London, examining the Hamburgh bill of 1838 and our own of 1839.

The first thing that strikes us in the foreign register is the fourfold division of the deaths under each head, for it is stated how many of the deceased were males, and how many were females, and whether they were under or above 10 years of age. Thus, of inflammation of the brain there died 24 males and 11 females under ten years of age, and 22 males and 11 females above ten years of age, making a total of 69.

At the head of the list stand the still-born children, of whom 96 males and 65 females were born prematurely, and 95 males and 87 females at the full time. We next come to the unsatisfactory item of "age and debility," or *marasmus infantilis et senilis*, to which 528 deaths are attributed in the Hamburgh, and 1818 in the London bill. The proportion to the sum total is about the same in both towns, and the only credit which Hamburgh can claim is the separation of the 528 deaths into the four divisions above-mentioned. Of course, the number is prodigiously overstated in both cities; and we are obliged to suppose that even in Hamburgh, when a patient dies who has fulfilled his three-score years and ten, the practitioner too often snatches at this explanation of the cause of death, and merges his disease in his age. In the true euthanasia, where man lives out his seven ages to the uttermost grain of the hour-glass, life unextinguished by disease goes out spontaneously, and the poetic fiction which makes sleep so near of kin to death

* The London Practice of Midwifery, 5th Edit. p. 324.

becomes a simple reality. In the words of Dr. Wilson Philip, " in the only death which can strictly be called natural, the state of the sensitive system which immediately precedes death differs from its state in sleep in no respect but in degree." But cases of this kind, where a strict post-mortem examination discloses no sufficient cause of death, are so rare, that instead of being counted by hundreds or thousands, we should be surprised if a large city could afford a dozen instances annually.

The next head is that of teething, to which 81 deaths are assigned in the Hamburgh, and 278 in the London bill, being about the same proportion of the whole. Under convulsions the number is 371 at Hamburgh, and 1218 here. The Hamburgh cases all occurred under ten years of age, and we believe that the same thing is understood in the London bills, though not expressed.

Hydrocephalus destroyed 215 children at Hamburgh, and 229 in London. This nearness of the numbers, with so great a difference in the total mortality, is strange enough, if anything could be called strange in our bills. In 1833 the number here was 860. We suppose we ought to draw pretty largely on those unclaimed dividends, the 5673 " unknown causes," and add a few hundreds to the head of hydrocephalus.

Hooping-cough destroyed 143 persons at Hamburgh, (of whom one was above ten years of age), and 252 in London. In 1833 the number here was 1040, so that we ought probably again to draw upon the large stock of undistributed cases. Measles destroyed 111 in Hamburgh, and 478 in London. On the other hand only 17 are set down to scarlet fever in the Hanse Town, and 471 with us.

Small-pox, again, carried off only 24 at Hamburgh, and 239 in London. This enormous disproportion must be attributed to the greater diffusion of cow-pox abroad. The number destroyed by small-pox in London, in 1839, is unusually small: in 1833 it was 574. Sixty-two deaths are set down to croup at Hamburgh, and only 55 in London. In 1833, the number was 151.

Rickets, scrofula, and atrophy, carried off 419 children at Hamburgh. Four deaths only are set down to scrofula in London, and the other two diseases are not noticed. Twenty-seven deaths among children are attributed to softening of the stomach, at Hamburgh; but with us this cause of death is not mentioned at all.

Thirty-one deaths occurred from trismus neonatorum, one from pemphigus neonatorum, and three from erysipelas of the new-born, at Hamburgh: in the London bill, pemphigus is not noticed; and though two deaths are set down to locked-jaw, and thirty-seven to erysipelas, no mention is made of them as occurring among infants. Imperforate anus is assigned as the cause of two deaths at Hamburgh, but does not occur in the London bill.

Aphthæ neonatorum destroyed two children at Hamburgh; and forty-seven deaths are put under thrush in our bill. Angina parotidea (mumps) carried off one child at Hamburgh, but is not mentioned here.

Six deaths are set down to asthma thymicum in the Hamburgh bill, but does not occur in the London one, unless we take it to be included in croup; though, perhaps, it would be safer to suppose it hidden amid the crowd of the nameless five thousand.

Induration of the cellular membrane destroyed three children—all girls: it is not mentioned in the London bill. Underwood calls this disease " skin-bound."

Cholera carried off 11 persons under ten years old, and 5 above that age; while, in London, 3 deaths only are put under this head. At Hamburgh, ner-

vous fever destroyed 104 persons; contagious nervous fever, 12; and gastric fever, 107. In London, fever destroyed 530; intermittent, 6; and typhus, 132. The difference in the nomenclature is probably greater than the difference in the forms of fever in the two towns: it would be singular if there were no gastric fevers in London, and no typhus in Hamburgh. Puerperal fever carried off 15 women at Hamburgh, and not one in London, if we were to accept the bills as negative evidence; but the fact is, that here these cases are included under the head of "childbed," or perhaps of "fever." The omission does us no credit.

Rheumatic fever destroyed 11, and acute rheumatism 12 persons, at Hamburgh. In the London bill, 16 deaths are charged to rheumatism.

Such are a few of the discrepancies between the London and Hamburgh bills; and too many of them, we are ashamed to say, shew a great want of accuracy on this side of the water. We will continue the subject on an early occasion.

ATTENDANCE ON THE POOR.

To the Editor of the Medical Gazette.

Sir,

I read with very great pleasure the judicious letter of Mr. H. W. Rumsey, prefixed to the petition of the medical practitioners of the city of Gloucester, contained in your number of the 27th ult., and I trust that the appeal thus made to the profession will be promptly and unanimously answered. With much gratification I would beg to announce, through the pages of your journal, that the medical practitioners of the borough of Stroud and its vicinity, have shewn the utmost alacrity in following the example of their brethren in Gloucester, being persuaded that the legislature is disposed to listen to temperate suggestions, and to consult the interests of a profession whose claims have been too long unheeded, principally, I believe, from the deplorable want of energy, unanimity, and self-respect, displayed by its members. That the profession may be no longer wanting to itself, but may hail the present opportunity of unanimously expressing its concurrence, both in the necessity and suitableness of the remedy proposed to parliament, must be the ardent wish of all who desire to see it maintain that high position to which it is so justly entitled.—I am, sir,

Your very obedient servant,

W. H. Gooch, M.D.Ed. M R C.S.,&c.
President of the Stroud Med. Association; Physician to the Stroud Dispensary and Casualty Hospital; and to the Hampton Dispensary.

Stroud, (Gloucestershire,)
Jan. 7, 1840.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Dec. 26, 1839.

Isaac Royse, Castleton, Derbyshire.—Francis Baugham, Bridgenorth, Shropshire.—Henry C. Deshon, Bath.—Stephen Clogg, Bourn, Lincolnshire.

Thursday, Jan. 2, 1840.

Edward E. Phillips, Chilton super Polden,—Thomas Oliver Duke.— Christopher Fountaine Brown, Leeds.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Dec.* 31, 1839.

Abscess	1	Hooping Cough	6
Age and Debility	25	Inflammation	13
Apoplexy	2	Bowels & Stomach	3
Asthma	8	Brain	4
Childbirth	2	Lungs and Pleura	16
Consumption	37	Insanity	1
Convulsions	17	Liver, diseased	1
Croup	1	Measles	6
Diabetes	1	Mortification	1
Dropsy	7	Paralysis	1
Dropsy in the Brain	2	Scrofula	1
Fever	2	Thrush	1
Fever, Scarlet	11	Unknown Causes	88
Heart, diseased	4		
Hernia	1	Casualties	8

Increase of Burials, as compared with the preceding week . . . 105

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Dec.	Thermometer.		Barometer.	
Thursday . 26	from 27	to 43	29·64	to 29 31
Friday . . 27	40	53	29·24	29·50
Saturday . 28	29	42	29 61	29·84
Sunday . . 29	25	37	30·11	30·26
Monday . . 30	21	36	30·25	30·11
Tuesday . . 31	35	48	29·85	29 71
Jan.				
Wednesday 1	47	53	29·64	29·66

Prevailing wind, W.

Except the 29th, generally cloudy. Rain fell on the 26th, 27th, and 30th.

Rain fallen, ·5375 of an inch.

Charles Henry Adams.

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, JANUARY 17, 1840.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.

Surgeon to the St. Marylebone Infirmary.

CANCER—*continued.*

Medullary Form — Anatomical Characters—Chemical Characters—Distinctions between Scirrhoid and Medullary Tissues.—Cutaneous Cancer—Formation—Carmichael's, Adams', Cruveilhier's, Müller's, Broussais', Carswell's Opinions—Period of Life—Causes—Diagnosis—Prognosis—Exceptions—Treatment.

In examining the progress of medullary structures, we may admit three stages: in the first, the tumor has the consistency of conglobate glands; in the second, it is softer; in the third, the softening is complete—it is almost semi-fluid, giving to the touch a sensation of fluctuation. A fourth period may be admitted; it is that of ulceration of the integuments, when the tumor is near the surface. The dissection of medullary structures (says Lobstein) shews that the mass is composed of three distinct parts—cells, parenchyma, and extravasated blood. The cellular tissue, which constitutes the frame-work of this structure, occupies only a very small space; it is soft and semi-transparent. The parenchyma is presented with different degrees of consistency: in the crude period it is more or less transparent, hard, divided into lobules; in the second period, the mass is like the brain of a young child, divided into lobules by fissures, in which blood-vessels, whose texture is extremely delicate, are lodged; in the third period (that of perfect softening), the consistency of the mass is not much greater than that of thick pus. Between the first and second periods, medullary structures present an appearance which has been little noticed. The consistency being considerable, when the tumor is incised a milky matter is yielded, not upon compression, but upon scraping the surface with the knife, though no cells or vesicles which could have contained it appear.

Berard injected an encephaloid tumor, and found that in its substance there was a great preponderance of arterial canals, and that this preponderance was as much greater as the softening was more decided. He found that the membranous envelope presented an abundant venous plexus, interlacing with the arterial ramifications. In a section of the tumor he could not see *a single venule nor black point*, whilst the injection freely pervaded the adjoining thyroid body. Either, therefore, there were no veins, or they were filled up with some matter other than fluid blood; and, in fact, it was found, upon squeezing the mass, that encephaloid matter oozed out from numerous canals apparently venous. Velpeau describes a case in which the kidney was the seat of disease, and cancerous matter was found in the inferior cava. Many similar cases are detailed by Cruveilhier and others.

It is probable that the reason of the apparent absence of veins is this: the blood moves more slowly in the veins than in the arteries; it is in the veins that the blood becomes stagnated: the blood moving in the veins in a medullary tumor, while in this almost stagnant condition, may be transformed into a medullary mass, and the veins be, in this way, made impervious to injection. This explanation is not, perhaps, applicable to all cases, for in those of Berard there was destruction of the venous parietes; but whether the medullary matter found its way into the veins, or whether it was already trans-

formed in the canal, is a matter which cannot easily be determined. In many specimens of medullary tissue, Cruveilhier thought the structure represented a sort of 'feutre' or felt, or cavernous erectile tissue; that there was identity of aspect between the arcolar frame-work of the cancerous and erectile tissue: this he thinks we cannot be surprised at, since the accidental erectile tissue is nothing else than a development of the venous capillary system; so that there is not only identity of aspect but of affinity between the erectile and cancerous tissue. "I regard," says he, "as a truth acquired in science, that cancer has its immediate seat in the venous system. A second variety is, says he, eminently vascular, appearing to be composed of veins flattened and flexuous, dilated into ampulla with extremely thin parietes, easily destroyed, and becoming the source either of small or large extravasations of blood. These are more rapid in their course than the hard varieties.

Chemically. — Some experiments were made a few years ago, in the laboratory of the Faculty of Medicine of Paris, upon cerebriform tissue in its first or crude stage. Treated first by cold water, it furnished a little albumen and gelatine; treated by warm water, the filtered liquid was turbid. When evaporated it yielded gelatine and a little phosphate of lime; by means of warm alcohol a little more gelatine was obtained, but the greater part of the matter remained insoluble in water and alcohol, presenting a fibrous appearance, not unlike fibrin or gluten. Acetic acid produced considerable tumefaction of the residue. Cerebriform matter in its second stage was treated as follows:—Two hundred parts mixed with one hundred parts of distilled water formed at first a homogeneous mass; heated, it deposited a solid coagulated matter, insoluble in water, spongy in appearance, but tenacious, elastic, horny. This same coagulum, weighing a hundred and ninety-six 'fraumes,' burnt upon lighted charcoal, exhaled a smell like burnt horn, bearing the characters of coagulated albumen. The remaining water having been evaporated, no gelatinous appearance was assumed. From these experiments it resulted, that, at its first stage, it is richer in gelatine, whilst in its second stage it contains more albumen.

Distinctions.—The following are the prominent distinctions between these two classes of structures: at its perfect state of development the medullary disease presents a milky white pulpy matter, the surface studded here and there with red spots; scirrhus presents a lard-like mass, intersected by dense white bands. The medullary tissue presents many small arteries, becoming still more numerous where softening is decided; in some points there is actual extravasation, and when ulceration takes place, hæmorrhage follows. Scirrhus has very few vessels, extravasation is very unfrequent, and when ulceration occurs, hæmorrhage seldom happens. Medullary tissue often breaks down the walls of veins, and may get into the canal, which it may distend; we have no instances of scirrhus following a similar course. Medullary tissue may affect all organs; the seat of scirrhus is much more limited. Medullary tissue may acquire great bulk, and when it softens, the mass becomes elastic. Scirrhus rarely acquires great bulk, sometimes seems to produce atrophy of parts, is not well rounded nor elastic. Medullary matter may exist in many organs at the same time; scirrhus is generally confined to one point. Medullary tumors may be developed at an early period of life; scirrhus is rarely seen before adult age. Medullary tumors may be long in contact with the skin without adhering; scirrhus is soon adherent. Medullary tumors ulcerate very rapidly, destroying life often in a few weeks; scirrhous ulceration frequently continues for months, or even years.

Cutaneous Cancer.—There is a variety of cancer which commences in the skin. A tubercle or wart is usually presented. Scarpa examined the tissue of these tubercles under a lens, and ascertained that the tissue possessed the characters of scirrhus, but we shall in many cases vainly look for the scirrhous base which is usually found in scirrhoid ulcers; besides this, they are usually very long in affecting the neighbouring glands, and are often completely cured by extirpation. These cancers take a different course from those we have been considering: they commence with an ulcer, and gradually acquire a scirrhous fundus. They are most frequently developed about the head and face, about the areola of the nipple, the scrotum, the vulva, the rectum.

Formation.—Of the mode of formation of carcinomatous structures we are profoundly ignorant. Carmichael believed it to be a living being enjoying independent existence. Adams' opinion was, that the essence of cancer resided in the presence of a hydatiform animal, which he called hydatis carcinomatosa. According to him the white septa which intersect, and the membrane which surrounds scirrhus, are living cysts—tænia hydatoidea. The proof that this hydatid was living, is, that it was like those of sheep; that it shrivels and takes a granular appearance when an incision is made through the tissue, and that this does not happen

in some hours after removal, when the breast is cold. He believed there were three kinds, serous, gelatinous, and sanguinolent. Hodgkin sought to prove that the presence of a serous membrane, having a cystiform arrangement, is necessary for the production of cancer; the existence of the former, he believes, precedes the latter. The objection which must be made to this view is, that it is too exclusive; there are certain carcinomatous structures in which a cystiform character may be shewn; there are others in which it is impossible to demonstrate anything of the kind. The cancer areolaire of Cruveilhier is "essentially constituted by the transformation of the affected tissue into an areolar fibrous structure, filled by a kind of transparent gelatinous matter." He thinks it makes no exception to what he regards as a general law, "that all organic transformations are exclusively the result of a successive deposition of morbid products in the cellular element of organs." He believes it is rarely manifested, successively or simultaneously at a great number of points, whilst Müller believes that this areolar disease is ordinarily accompanied by general affection of the system, and that the patient dies with similar visceral disease. Cruveilhier believes it to be developed most frequently in bones, in the rectum, the uterus, the ovaries, the cœcum, the small intestine, but no where so frequently as in the stomach. Müller's opinion of the cystiform or cell-like arrangement of this form of cancer is somewhat different:—if we examine a very thin slice of this matter with a power equal to about 400 diameter, we distinguish a granular matter associated with cells or cysts; these cells are not single, but within the first we see a second, with which the first seems to have no direct connexion, "like one pill-box within another." The smaller cell contains a dark yellow parietal nucleus, which seems in contact within, perhaps arising from, one side of the cell. He believes these cells, or cysts, arise from the granules; that they enlarge, burst, and are succeeded by others, and that in this way the mass increases; he applies, in fact, the opinion of Schleiden. According to him, each cell in vegetable development contains a portion of starch, which is capable of being converted into nutritious matter. This conversion having taken place, a dark spot is perceived in the coats of the cell, and from this spot a new cell is seen to be protruded; accordingly this spot being the germ of the cell, it is called by Schleiden the cytoblast. The new cell, when generated, gives birth in its interior to new cytoblasts, which again generate new cells, and thus a series of cells is produced, one within another, until the external one is ruptured, and its contents are enabled to escape, and thus to obtain their natural development. The newly-formed cells are of extreme tenuity, but new matter is afterwards deposited within the interstices of that originally formed, until they gradually acquire firmness and consistency. Without knowing any thing of this discovery, Mr. Gulliver showed me this arrangement, in a cancer of the breast, removed from a patient of 55, by my colleague, Mr. Stafford. He found considerable difficulty in determining whether the granular masses succeeded to the cysts, or *vice versâ*, though he inclined to the former opinion. I have examined many other cases, but without discovering a similar arrangement. The patient in Mr. S.'s case died of pneumonia, and no similar deposits were found in any of the viscera. Mr. Gulliver's notes on the structure in this case are as follows:—"Ultimate structure of juice, molecular; globules very variable in size; many oil-like, floating freely in fluid; many contained in transparent cysts of pretty large size, very variable in shape: some oval, others globular; molecules and cysts contained in an interlacement of cellular tissue. Certainly one cyst inclosing others. After maceration in muriate of soda, one oval cell seen to enclose two others with a nucleus (intervening parts granular); length of large cyst 1-400th of an inch; breadth 1-555th; circular nuclei 1 5333 rd. Mr. Gulliver is about to submit to examination a large number of specimens of cancer, from which he expects it will result that this cellular form will be very prevalent.

Broussais and his followers believe that cancer is a consequence of inflammatory action; "all inflammatory and sub-inflammatory action may determine cancer." The authors of the Dict. de Med. art. Cancer (Breschet and Ferrus) maintain that cancer succeeds to irritation or inflammation, and cannot be developed without being preceded by them. This irritation or inflammation determines the deposit of coagulable lymph, which may harden and constitute the nucleus of scirrhus; inflammation may attack this nucleus and disorganize it; but in its passage from an organic to an inorganic state, there will be a detritus from which cerebriform matter results; if it be mixed with blood, or new capillaries be formed, fungus hæmatodes may result. In this theory two distinct inflammatory actions are required or invoked; the one primitive, which may be only inflammatory irritation, but determines the formation of scirrhus; the other secondary, by which it

is changed into medullary matter. Of this I am not aware that any proof can be given; we are not therefore justified in assuming that scirrhus results from inflammatory irritation. In fact, do we find scirrhus oftenest where irritation is most decided? Is it in abandoned women that cancer of the uterus is most frequently seen? Is cancer of the mammary gland more common in those women who have nursed many times than in those who have never had children to nurse? I believe not. If we examine scirrhus soon after it is detected, we do not find the smallest vestige of inflammation, yet it may increase. Now, if it can enlarge without inflammation, may it not be formed without it? In as far as concerns the second degree of scirrhus, or its passage into the period of softening, it seems to me that an irritant action must be admitted. What else than inflammatory irritation could produce the change of texture?

The following reasons seem to me conclusive against these tissues being a consequence of inflammation: that they are manifested by characters essentially different from those of inflammation; that they are not necessarily preceded by inflammation; that inflammation does not explain the accidents they determine, nor the disorders which characterise them; that they never seem to arise simply under the influence of causes of inflammation, and are not manifested by the same symptoms; that they are preceded by the formation of an organised tissue, whose nature and aspect is different from that of tissues which have been altered by inflammatory action; that the formation of this tissue, either in masses or infiltrated in the cells of organs, is explained, naturally and simply, by an alteration in nutrition, which is characterized by the secretion into the diseased part of a substance which is at first organized and afterwards softened, disorganized, and, at a certain period of its existence, reduced to a pulpy or detritic mass; that scirrhous and cerebriform matter is identical, or nearly so, in all tissues, whilst inflammations are not perfectly the same in all tissues. Inflammation being a disease of tissues, is modified by their vitality and their organization; whilst cancer, resulting from the primitive formation of a morbid substance which constitutes it, is never primarily subjected to the particular state of the organ in which it is developed or deposited.

Dr. Carswell says "that this substance (cancerous matter) exists in the blood." That the deposit is a consequence of a modification of the blood, is evident from the particular mode of deposition; from the existence of this matter in the vessels ramifying in carcinomatous matter; from its being found in vessels having no direct communication with an organ affected with cancer, and in blood which has been effused into the cellular tissue or upon the surface of organs. The divisions of the vascular system in which it has been found are the venous and the capillary." Whether it be, as Dr. Carswell observes, "that the presence of an organized product in the blood can have no other origin than the blood itself, and that it cannot be introduced into this fluid by absorption;" whether it be a product of secretion, and not existing in the blood; or whether, as in the two cases described by Berard, the matter got into veins passing through the carcinomatous mass by a destruction of their parietes, may be a matter of question. Velpeau thinks that the blood in a vein may be converted into carcinomatous matter. Cruveilhier, at the same time that he believes the cellular tissue to be the structure in which cancerous matter is deposited, expresses his conviction that all new products, all morbid alterations, are formed at the expense of the venous capillary system. Laennec says it is a lesion of structure; Cruveilhier, Andral, Lobstein, and Carswell, that it is a lesion of secretion or nutrition. There are, says Carswell, several organs where means are afforded for ascertaining the seat, origin, and mode of formation of cancer; but it is necessary to observe it at an early period of its existence. Investigated in this its first stage, we ascertain, with greater or less facility, that this substance becomes manifest to our senses, either as a production of nutrition or of secretion. In the former case it is deposited in the same manner as the nutritive element of the blood, enters into the molecular structure, and assumes the form and arrangement of the tissue or organ into which it is introduced; in the latter it makes its appearance on a free surface, after the manner of natural secretions, as on serous surfaces in general. It may be found not only in the molecular structure, and on the free surface of organs, but also in the blood. He believes that an organ is often not at all enlarged by the deposition of carcinomatous matter, and that it is a mere exchange for an equal quantity of the natural tissue, which has been absorbed in the usual way.

Period of development.—Although what is termed the critical period of life, or that included between 35 and 55, be the time of life when carcinoma is most frequently developed, it may also occur earlier or later. In the earlier periods of life the variety usually seen is medullary; it may affect the eye or it may affect the skin. A

few months ago, I had a case of cancer of the perineum, in a young woman of 23. I have at present cancer of the rectum, in a lad of 17. Not long since, a young woman died, at the age of 21, from cancer of the uterus. It is certain that women suffer from the disease more frequently than men.

Causes.—Of the cause of cancer we are utterly ignorant. We have no evidence to shew that cancer is contagious; cancerous ichor has often been inoculated, but I am not aware that it has ever produced cancer. Men have cohabited with women suffering from cancer of the neck of the uterus, but without propagating the disease. Neither have we any evidence to prove that it is hereditary; though the popular opinion favours that belief. And again, with regard to the depressing passions, also assigned as a cause, we see cancer developed in persons habitually cheerful, in whom no function has been seriously injured, and who have enjoyed good health; and in whom no external injury has been inflicted upon the organ which is the seat of the disease. With respect to the cessation of menstruation, we cannot deny that a tumor, long indolent, may rapidly increase under it; but, on the other hand, how frequently do we see cancers even in a state of ulceration before the cessation of this function, and even while it is regularly performed.

Some persons believe that a mysterious unknown condition, termed *diathesis*, excites the development of cancer; they believe that there exists, in certain cases, an internal disposition sufficient to produce cancer: it is, say they, the true and unique cause of the reproduction of cancer after extirpation; it is upon it that the simultaneous or successive development of the disease in several organs, far removed from each other, depends. According to them, this diathesis may exist many years, or the whole of life, without being manifested by any external or internal sign. Bayle goes so far as to say that cancer is never a local disease, though determined by an external cause; that it is to this diathesis that cancers owe the property of reproduction twenty years after extirpation, though, during the intermediate time, the patient has seemed to enjoy good health. To consider, as the reproduction of extirpated cancer, that which is manifested twenty years afterwards, whilst, during this long interval, the patient has had seemingly good health, is too great a stretch for my imagination. It establishes incontestibly, if admitted, that cancer is an incurable disease.

That cancer is a disease whose local manifestation is secondary, is highly probable; thus twenty women, at the age of 45, placed under apparently exactly similar circumstances, shall receive a similar blow on the breast; in one case cancer may succeed to the injury—contusion happens in all, but the one has a disposition to the disease, and the disposition is excited into action by the injury. There are certain "constitutional" diseases which we know how to excite—syphilis and scorbutus; there are others which we know not how to excite at will—phthisis and cancer.

Diagnosis.—With all the knowledge we can bring to bear upon the subject of cancer, the diagnosis is still in many cases a matter of great difficulty. When the tumor is indolent, and ulceration has not taken place, it is often impossible to pronounce upon it with any certainty. Though accessible to the eye and the touch, and not very deep seated, we frequently cannot positively determine, before extirpation or puncture, the morbid structure of which it is composed: neither the length of time it has existed, nor the obscurity of the causes by which it has been produced, nor its density, nor its mobility, furnish certain indications upon which to determine whether the tumor be formed of scirrhous, or medullary, or fibrous or fibro-cartilaginous matter, or whether it results from a simple chronic induration of the affected organ. But if our power of diagnosis be not sufficiently precise to make out these anatomical peculiarities, we can in most instances distinguish, from all others, scirrhous and cancerous productions, and bring to bear a sufficient number of circumstances to justify an operation. Scirrhous tumors, externally situated, may be confounded with all others which exist without heat, change of colour, and fluctuation. The presence of one of these signs suffices to exclude all idea of scirrhous or unsoftened medullary matter, and acute lancinating pains, occurring with irregular intervals, can rarely be confounded with that determined by ordinary inflammation. The situation of aneurisms in the course of arteries, and their pulsation isochronous with the motion of the heart, suffice even when they are firm and not fluctuating, to distinguish them from scirrhus. Fatty and encysted tumors present either an inelastic softness, or an obscure and imperfect fluctuation, which distinguishes them from organic products, and they are commonly not developed in those situations where scirrhus is usually found. Certain dense fibrous or fibro-cartilaginous cysts, containing either hydatids or suetty matter, may sometimes mislead, but then such tumors are not common externally, and they always present an elastic resistance, and usually an obscure fluctuation, by means of which we might distinguish their true character. It is generally more

difficult to distinguish scirrhous from fibrous tumors, which are not very unfrequently developed in the mamma, and are often found in the uterus. But these fibrous tumors have generally a smooth surface, rounded and regular forms, neatly separated from adjoining tissues, which contrast with the knotted surfaces, close adhesion, and great density and weight of scirrhus. If a tumor remain long, hard, and apparently inert; gradually becomes the seat of lancinations, which increase in frequency; if soft, and apparently fluctuating points appear, under which the skin is thinned and reddened, there can be no doubt that malignant disease exists. It may happen that a tumor exists in the breast, and that a sanious fluid escapes from the nipple. This very grave symptom may however mislead; I have had the history of two cases in which the tumor of the breast had succeeded to a blow; after a time a sanious fluid flowed from the nipple, the tumor was extirpated, and was found to be formed by a clot of blood succeeding to the injury: the clot broke down, and its more fluid portion found its way into the lactiferous ducts. Even when ulceration has occurred, when we see an ulcer with a scirrhous base, everted edges, ichorous, fetid, acrid secretion, with a tendency to hæmorrhage, these circumstances are not peculiar to each species of cancer. Cancer of the face is often altogether indolent, and the scirrhous base is often not found elsewhere than in cancer of glandular structures. The everted cut edges, the tendency to hæmorrhage, fungous vegetation, are seen in ulcers which are not cancerous, and all cancerous ulcers do not yield a fetid sanies; therefore these so called characteristic signs have only a relative value. The specific odour of the pus, it is important to notice, the eroding character of the ulcer, the tendency to swell of the neighbouring glands, and the appearance of suffering impressed upon the countenance, the pale, dry, parchment-like skin, and the tendency to reproduction. In spite of all these signs, it must be borne in mind that, in an affection the proximate cause of which is unknown, there can be little certainty.

Prognosis.—Can cancer be cured? I believe there can be no question that a cancerous tumor is not susceptible of resolution; we know no medical agent capable of eradicating it from the constitution. We do not think it impossible that ultimately such means may be discovered. We have a panacea for syphilis; we may, by change of climate, now and then arrest the progress of tubercles. With regard to cancer, its progress has been arrested; and after ablation in some cases, few though they be, the disease has not reappeared; if this be so, we must admit that the cause under the influence of which it was principally developed has been destroyed or arrested in the interval. The cases described by Mr. Hill, eighty-eight in number, I do not propose to consider, because they are so opposite to the results of general experience, but of these eighty-eight only five were tumors of the breast, and of these five only two were apparently cured. Those of Recamier are to me little more satisfactory. Monro operated, by ablation, in sixty cases of cancer; at the end of two years four only had not suffered relapse. Scarpa practised his profession very extensively for sixty years, and only knew three cases in which the disease had not reappeared. Boyer removed a hundred cancerous tumors; in four or five cases only was there an apparent cure. Besides those operations, I have collected, from the experience of eminent surgeons, 703 cases, in which the breast was extirpated, and there were only twenty-two apparent cures. Still we must not regard every case where a second cancer tumor is discovered, as a relapse, because it is possible, of course, that they existed before the operation was performed, and that they were developed under the influence of causes similar to those which had occasioned the external disease. It is maintained by some persons, that the cancerous matter is softened, absorbed, carried into the circulation, and afterwards deposited in various organs; the absorption is not however sufficiently made out to be considered an established fact in science. If it be admitted as possible in external cancer, it must be equally possible when it is deposited in internal organs.

If cancer be reproduced after extirpation, it happens in different ways; sometimes the process of cicatrazation is interrupted, fungous points or tubercles are developed, and a cancerous ulcer is soon produced. Sometimes the cicatrix is completed, after some time it is raised by a tumor, is destroyed, and the disease reappears. Sometimes it happens that the disease reappears in the lymphatic ganglia related to the part where the disease was originally seated. Those of the axilla, when the mammary gland has been affected, those of the pelvis, when the testicle has suffered. It may however occur in parts perfectly unconnected with the original seat of the disease.

In the relapses, the nature of the tissue sometimes changes, but usually it is the medullary structure. The interval comprised between the destruction of a cancerous tumor, and the reproduction, is very variable; sometimes it is very short, at others it is very long. But we know not

why, no more than we know why in rabies so long an incubation sometimes happens.

Exceptions?—At a time when the impression is almost universal that cancer is a disease beyond the reach of art, and when, consequently, the disinclination to resort to extirpation of the morbid structure is daily increasing—when at the same time no one is disposed to deny that occasionally, though very unfrequently, cases occur in which reproduction does not happen—it is interesting to inquire whether we have any signs by which to distinguish a curable from an incurable cancer. Within a few years I have had opportunities of examining ten cases in which cancer commenced in the cutaneous integument, or portions of the mucous tissues nearly connected with it: one was a case in which the disease commenced in the perineum, and extended to the vagina; two were cases of cancer of the lip; one was a case of cancer on the penis; two were chimney-sweeps' cancers; in one the disease had begun in the areolar tissue of the mammary gland; in one the rectum was the seat of the disease; and in one the inside of the thigh. These cases were examined after death, three only dying from the immediate effects of the disease. In no one of these cases was a similar deposition found in any viscus. Supposing further experience confirm this as a common, though not a constant circumstance, it will still enable us to relax the rule which is now so stringently applied as to the unvarying fatality of the disease. It will be an evidence of the probability that cancer commencing in the cutaneous integument does not commonly, unless at an advanced period of its existence, pervade the system, so as to constitute a constitutional disease. Few surgeons of much experience have not seen cases in which cancer of the lip and cancer of the penis have been cured; and these cases no doubt depend upon the absence of constitutional infection. With regard to the other varieties, so much may be said, that though few, yet undoubted cases exist in which the disease has been extirpated, and no symptom of relapse has been manifested at the end of many years. In these cases, either no deposition of the carcinomatous product has occurred, the disease being local, or if deposited, its further development has been arrested. It is very important, therefore, to ascertain, by the aid of the microscope, and its general characters, the particular structure of each of the tumors which may be removed, as it may enable us to establish that certain other varieties of carcinomatous structures have little tendency, at least in the earlier periods of their existence, to infect the constitution generally, and that we may therefore recommend the removal as a probable curative means.

Treatment.—Two things must be necessary to cure cancer; the destruction of the cause, and the extirpation of the local disease. In surgery we extirpate the local disease, but we know that to obtain a cure both the local and general disease must be extirpated. If surgery obtains such inconsiderable success, it is because the extirpation of the local disease does not imply extirpation of the constitutional taint. In medicine the success is even less, because neither the general nor local disease can in the present state of our knowledge be thus extinguished. The use of remedies has changed with the changing opinions as to the nature of the disease; when cancer was held to be a voracious animal, the hunger of this devouring vulture was appeased by placing upon the part slices of raw meat. The school of Broussais regarded it as inflammatory in its origin, and during its progress used the antiphlogistic treatment. Those who regarded it as a particular virus employed such means as they conceived to be likely to neutralize that virus. These, and a great number of other fanciful means of treatment, have been employed and abandoned. In the present day the medical treatment of cancer is directed to three main objects—to resolve the cancerous tumefaction, to alleviate the pain, and to change the constitution so far as to remedy the cachexia.

To attain the first object, mercurials, arsenicals, alkalies, iodine, and cicuta, hydrocyanic acid, iron, the Calendula officinalis, blood-letting, and emollients, have been extensively used, and many fancied cancerous tumors have seemed to yield under them.

To quiet pain, narcotics, such as opium, belladonna, aconite, and hemlock, have been much used; they may also be employed locally when the tumor is external. For many years hemlock was conceived to have a specific action upon these tumors; indeed, the eulogiums of Storck led men to expect much from it. It has been much tried, but has never afforded any encouragement to hope that it has any other effect than that of lessening pain. Within a few years it has been very extensively employed in the practice of Recamier, in cases of cancer of the breast, the uterus, the testicle, the liver; and he believes with great success. He found the effects to be materially influenced by the quantity of food taken; if much food were taken, the action was null; if the patient were rigidly dieted, the action was very decided. His mode of administering the remedy was to take a dose morning and

evening two hours before the first and the last meal, beginning with half a grain, and not exceeding six grains; this dose is continued for a fortnight, it is then increased to twelve grains each dose; this is continued for three or four weeks. Not more than one-third of the usual quantity of food should be taken, and it should be divided into three meals. Towards the end of the treatment the hemlock is gradually diminished, and the quantity of food as gradually increased.

M. Gama exhibited cicuta in combination with calomel—four parts of the former to one of the latter; one-grain pills are formed; at first one is exhibited morning and evening, then two, increasing the dose one pill daily; in this way the dose has been increased to twenty-five, thirty, or even forty daily. As might be expected, the effects of this treatment are very decided; sometimes abundant salivation, at others purgation. If the patient be much pulled down by it, the treatment is suspended for a time. It is generally associated with antiphlogistics and the *cura famis*. In certain obstinate indurations, and certain unhealthy cancerous-looking ulcers of the head and face, it succeeds sometimes very well, but I have never seen any thing to assure me that it will cure true cancer tumors.

The means employed to remedy the cachexia are similar to what would be employed in cases of chronic inflammation; but they do not succeed; the food should be more vegetable than animal; irritating and stimulating substances should be avoided. Though the *cura famis* may succeed in cases of chronic inflammation it will not here, though it may be very useful as a principal or auxiliary remedy. Arsenic has been much used. Justamondy regarded it as a specific. Hill thought it a very valuable remedy. Biett and Thomson employ it in the form of an iodide. Allman has much used the iodide of potassium, and considers it very efficacious in cases of cancer of the face, the breast, and the uterus; he used it much externally; his formula was half a dram to a dram of the iodide, to an ounce and a half of lard. Mercury, Rust says, has succeeded in his experience in many cases of cancer of the lips and the tongue. In cases of true cancer these various means will, almost, if not altogether, disappoint those who may employ them. And this impotence of all means of treatment, internally employed, induced men to attempt to remove the disease by means directly applied to it. These may be resolved into three; compression, caustics, and cutting instruments. It is desirable that you should perfectly comprehend that the action of these agents is strictly local, and that they do not strike at the root of the disease. Acting upon this opinion, some persons have rejected, in all cases, the assistance of surgery, and have urged that the patient should not be subjected to the pain and danger of a bloody operation, when this operation is at best only palliative. Besides, it has been observed in some cases that the wound resulting from ablation of the tumor becomes a cancerous ulcer, and the progress of the disease has appeared to be accelerated. Nevertheless, although I feel all the weight of these reasons, I think that the operation should in many cases be attempted, because cases of apparent cure do occur, and many cases of great relief. The extension of life which it procures is not dearly bought at the expense of the suffering of an operation. Of course, where the diseased mass cannot be completely circumscribed, an operation is contra-indicated. There are other circumstances which should make us pause; for instance, if hereditary transmission seemed probable; if the constitution seemed deeply impressed. In such cases the disease would infallibly reappear, and the suffering of the operation would probably hasten a fatal termination. It is contra-indicated when adhesions are so extensive as to render complete extirpation very improbable. There is another most important caution I have to give; do not operate, if you can avoid it, when the disease is making sensible progress. Its progress should be suspended. To this some persons would demur; they would say, do not operate when its progress is suspended, because that suspension may last for years. But this confidence in the suspension is dangerous; often, a cancer, the progress of which has appeared to be arrested, suddenly lights up and proceeds rapidly. Nothing is, therefore, more reasonable than to profit by this period of repose to operate, instead of exposing the patient to the dangers of exacerbation. It is necessary to distinguish between the cancerous cachexia, which is a contra-indication, from that state of marasmus and feebleness, brought about by pain, which does not always contra-indicate operation. The general indications it is impossible to give; a calculation must be made between the strength of the patient and the dangers of the operation. It is also necessary to look at the age of the patient, for if, in the common course of things, he have not long to live, it is a matter of grave question whether a slight extension might not be too dearly purchased by operation. Still, advanced age does not absolutely prevent operation; and this is especially the case in those of the lip, tongue, cheek.

Compression.—Dr. Young published his

minutes of the cases of cancer and cancerous tendency, successfully treated by compression, in 1816. Sir Charles Bell was urged by the Governors of the Middlesex to give it a fair trial; he did, and reported that the compression of cancerous tumors, ulcerated or not, is injurious, and accelerates the progress of the disease. Fifteen years ago Recamier commenced extended experiments upon compression. In the first volume of his work, he says, a hundred patients presented themselves with cancer, sixteen seemed incurable, and were not treated; of the remaining eighty-four, thirty have been completely cured by compression; twenty one have been improved; fifteen have been removed by ablation alone or combined with compression, and six by compression and cauterization; in the remaining twelve the disease did not yield. That chronic tumors of the breast may be dissipated by carefully-made compression alone, or associated with blood-letting, is probable; that certain uterine tumors may yield to pressure I can believe; but I have never seen any thing to convince me that compression will cure a cancerous tumor. It is quite true that a cancerous tumor may apparently give way under well-applied pressure, but then a careful examination will shew that the morbid structure still exists flattened, and the apparent diminution in the size of the organ is owing to an absorption of the cellular tissue, which always happens under pressure.

LECTURES

ON THE

PATHOLOGY OF MORGAGNI.

By Dr. Mayo.

Being the Lumleian Lectures delivered at the Royal College of Physicians in London, 1839.

Lecture II.

I must remind my hearers of the reasoning conveyed to them at the commencement of my first lecture, in excuse for the desultory character which will pervade the course.

In my first lecture I have noticed the project conceived, and in part executed, by Sydenham, of forming a history of successive epidemic states of febrile disease. I have noticed also the advantageous effect of such a survey in giving comprehensiveness to our views of disease, and preventing that devotion to exclusive principles of diagnosis which may otherwise take place. This view of the subject is connected with other important points in the philosophy of medicine.

"In every case," says M. Laennec, speaking of his great work, "in every case the nomenclature here adopted, being founded on the difference of organs, and not of symptoms, can lead to no confusion." And indeed this principle of description is calculated to give a very compact and logical history of medicine; and one which will be true as far as it goes. But does it go far enough to serve as a basis for just practice? The question indeed still remains, whether diseases, however for purposes of systematic division classed under organs, do in fact observe this classification; whether, if we did not fetter our inquiries by this nomenclature, we should not find disease existing in nature on a much larger scale; and find ourselves induced to use language including phenomena which are omitted in our present views.

The vague and theoretical character which our views will assume, unless light is reflected upon them from a precise knowledge of the derangement of organs, or in other words, from morbid anatomy and physiology, must be admitted by any one who compares, in point of precision and distinctness, works antecedent to the present era of anatomical inquiry, with those produced in the present century. But it is questionable whether the risk of the opposed fault to which I have adverted is justly appreciated, when morbid anatomy becomes the mistress, and not the handmaid, of the practice of medicine.

In the spring of 1837, I was sent for to a case of thoracic disorder, which had begun with pain in the right side, shortness of breath, and some fever; it had proceeded four days when I witnessed it: the pain had ceased: dyspnœa, in a trifling degree, and hurried respiration, remained. The sound on the right side was obscure, and there was well marked œgophony in the lower part of that side; the pulse 100, the tongue coated with a white list. After the use of leeches, blisters, and mercurials, the dyspnœa was abated, the peculiar sound of the voice cured, and the dulness on percussion was removed. I took leave of the patient under circumstances which we are accustomed to call "recovery." Some months afterwards I heard of him again from his mother, to the following effect: that he had never recovered his mental or bodily activity since his pleuritic affection; that, without any illness which appeared to them definite, he never was well. That he had lately incurred variola, that it had taken place fully, but not severely; and that since that time he had been as well as he was before the pleurisy.

This case illustrates the risk of li-

mited views in regard to duration of disease. I am not aware that I pronounced this young gentleman cured of his pleurisy at an earlier period than the organic nomenclature of disease warrants. But something morbid survived, in this case, the direct thoracic symptoms.

There is no disease in which the principle of taking an organ as the basis of the semeiology has been productive of more mixed effects for good or evil, than phthisis. A distinct appreciation of the symptoms of the lungs in regard to tubercular affection, has certainly placed us on the right track in regard to many curable affections of the lungs, which might otherwise have simulated that state; and, if it has not supplied remedies for phthisis, it has at least disabused us of erroneous impressions in many cases as to its existence. Such are the benefits for which we are indebted largely to the practice of auscultation. On the other hand, it must not be forgotten, that the unequivocal symptoms of the disease obtained by this method indicate that it has already arrived at a period at which, in predisposed constitutions, it is generally fatal, and in the least predisposed, intensely dangerous.

If pathological anatomy were the object, instead of the minister, of the medical art, our exclusive attention would rightly be directed to the pulmonary phenomena of phthisis, because these connect themselves most obviously with the facts of the disease as disclosed on dissection. But if the cure of the patient is our first duty, we should endeavour to take the case a little higher up, and to contemplate it, such as it is, before those symptoms are developed which belong in truth to its destructive stage.

"In no case (says Dr. Forbes), is the importance of percussion so frequently and strikingly exhibited as in the earlier stage of phthisis. A single tap on the clavicle will often give a more certain diagnosis than weeks, or even months, of observation of the general symptoms." This remark may, in the present state of our knowledge, be very just; but I think it scarcely warrants neglect of the general symptoms. On the contrary, it must, I think, impress on the reflecting mind an anxious wish that some more enlarged principle of investigation should be applied to the disease, which should not assume a tubercular state of the lungs, so far advanced that a dull sound takes place on percussion, as an *early* period of phthisis.

The method which the late Dr. Beddoes applied to the consideration of phthisis is well calculated to supply the deficiencies to which pathology might lead us, if limited conformably to the terms of Laennec.

Assuming that the causes of tubercular disease are not limited to a predisposed class, Dr. Beddoes endeavours, in his Essays on Consumption and Scrofula, to sift the question, what are the immediate antecedents to the formation of tubercles? He notices the influence of steel-dust on needle pointers, of the particles of plaister of Paris on those who work in that substance, and of the softer particles, which flax-dressers or workers in silk appear to imbibe; and, in passing under review the different orders of phthisical mechanics, he suggests, it might not be impossible to fix upon a group which should connect those who suffer from hard and coarse powders, with the case of invalids so delicate, that they almost faint if by chance they enter a room newly swept. "Perhaps," he observes, "were either of these cases removed, many would be preserved who now perish."

Dr. Beddoes's remarks, of which the above is an illustration, have some of that vagueness observable in the writing of physicians who write for the public, rather than for the profession; but he is always ingenious and acute. Certainly, we want criteria drawn from a consideration of this period of a patient's state in relation to disease, which may enable us authoritatively to inform such a patient that he is even now labouring under phthisis, unless he could confine the appellation to a period of the disease at which it is incurable.

It is no part of my object in the above remarks to undervalue such distinctions of disease as proceed upon a history of the derangement of organs, but merely to prevent their being the exclusive groundwork of nosology. Cross divisions of this great subject would be very useful, viz., one view having a relation to those symptoms which immediately connect themselves with derangement of a given organ; another view having a relation to that aggregate of symptoms, whatever may be the organ principally affected, which actually present themselves in our clinical experience. Without the first set of views, we should probably be indefinite nosologists; and for want of the latter, the student in medicine has constantly to complain, that disease, as viewed at the bed-side, is absolutely different from disease viewed in his class-book, or learned from lectures; while the practitioner has occasion to lament, that he is instructed of the existence of disease, only when it is irremediable.

Having nothing further to offer on this very important part of the subject of phthisis, I shall beg your attention to a case in Morgagni, which may be described as simulating phthisis.

There was a man in Lucca, (says Mor-

gagni),* named Stephen Cheli, of a tall stature, and a spare habit of body. This man had long been troubled with a cough, which was attended by expectoration, tinged with blood. The elder physicians had endeavoured to cure this disorder at one time by the juice of softening herbs, sometimes by asses' milk; sometimes by jellies of different kinds, and the broth of tortoises; at other times, by dilute decoctions of the woods, or by such medicines as, being prepared from steel, have an astringent property. These, and other remedies of a similar kind, were so far from gaining any advantage, that they made the patient still more emaciated, and the disorder more considerable; for the astringents seemed to diminish the quantity of urine, and the baths (which he also used) to increase the quantity of blood in his spittings. At length, when the patient was as much tired of the physician as the physician was with him, he came to me. He was very thin and weak, and got but little, and that disturbed sleep. Yet when I found that a fever, or at least a continual one, did not attend the disease, and, according to the words of Actius, a small quantity of purulent and bloody matter was thrown up by spitting, and that a sense of pain was manifestly perceived in no other place but near the ulcerated part of the aspera arteria, that is, a little below the larynx, and when I found, that out of all the remedies which had been made use of, two had been of some advantage, which had been recommended by Actius, against those ulcers of the aspera arteria, I mean medicine laid upon the tongue, so that being melted by degrees, they may fall down, and milk drank every day as it is milked from the animal; I began to cherish some little hope tacitly, and to endeavour to find out the method of bringing about, that the same remedies, which had been of advantage, might at length effect a cure.

They had used troches dissolved in the mouth and asses' milk, by which the sense of pricking was, at the time they were used, almost entirely taken away, and the strength of the patient somewhat increased by sleep. The troches, however, disagreed with his stomach, and the milk did no more than temporary good.'

The account which Morgagni gives of the treatment adopted by him is somewhat quaint.

'First of all then,' he says, 'I ordered the patient to shut himself up in a warm room, neither low nor close, and to abstain from conversation. Then, having prescribed such things as might tend to soften the aspera arteria, nor yet hurt the stomach, (which appears to have been a diet of puddings prepared without sugar) I ordered woman's milk, not in a great quantity at first, for the sake of trying how it would agree; and afterwards, when I found that it answered very well, I ordered as much to be sucked from the breasts as would nearly equal half a pint in the morning and the evening. I took particular care to have a nurse who was in good health, and ordered her to make use of proper aliments. By observing this regimen from the end of November to the beginning of May, the patient was so far recovered as to be extremely well for sixteen years afterwards.'

Upon this, observes Morgagni, every consumptive person in Lucca adopted the same diet, but without a single additional instance of success: a fact which will appear very probable when the imperfection of the diagnosis, at that period, between laryngeal and pulmonary phthisis, is considered.

That milk should be valuable in laryngeal phthisis is very conceivable; but it is often difficult to render it acceptable to the adult stomach in this as well as in other disorders in which it might be valuable. In two cases, one of laryngeal phthisis, another of marasmus, apparently arising from mesenteric affection, I have employed with considerable success a preparation of milk, imitated from that which goes by the name of koumiss. The first of these cases, a lady, aged 50, occurred to me in the year 1818. Its general features resembled very nearly those of the case extracted from Morgagni. In the second case obstinate sickness, or, if food were kept on the stomach, intense indigestion, had reduced a young lady, aged 20, to a very dangerous state of weakness and emaciation. There was no irregularity of the catamenia, and no moral cause to which this state could be referred: it had come on gradually and furtively. She was of a relaxed habit and pale complexion. Measures, adapted to remove a presumed obstruction of the liver, which was not indicated by the state of the fæces, had proved ineffectual, or rather, I might say, productive of mischief.

In the first of these cases, the preparation to which I would call your attention was made from asses' milk, in the second from cow's milk. In both cases it was taken in considerable quantities, and formed the exclusive diet of the patient for some time.

The result of this treatment was so very decisive in these two cases, and the authority in favour of its further trial so good, that I do not think I can better employ your time than in giving you some further details of the preparation which I

* Book ii. letter 22.

imitated, even though they should extend to some length.

A history of koumiss was read by Dr. Black, before the Royal Society of Edinburgh, in the year 1784, on a communication made by Dr. Grieve, late physician to the Russian army. He describes it as a vinous liquor prepared from mares' milk. It appears, as far back as the thirteenth century, to have been a common beverage of the Tartar nations. The latest writer by whom it was mentioned before Dr. Grieves, was the celebrated professor, Dr. Pallas. The following method of making roumiss, says Dr. Grieve, is that which I have adopted in my own practice with success. "It is common among the Barchkir Tartars, who inhabit the territory between the rivers Kama and Volga. It was communicated to me by a Russian nobleman, in whose case I was consulted, and who was the first who made use of it by my advice. He went into that country on purpose to drink it, and as he resided for some time there, he could not be mistaken as to the process.

"Take of fresh mare's milk of one day, any quantity; add to it a sixth part of water, and pour the mixture into a wooden vessel; use then, as a ferment, an eighth part of the sourest cow's milk that can be got; but at any future preparation, a small portion of old koumiss will better answer the purpose of souring. Cover the vessel with a thick cloth, and set it in a place of moderate warmth; leave it at rest twenty-four hours, at the end of which time the milk will have become sour, and a thick substance will have gathered at the top. Then, with a stick made at the lower end like a churn-staff, beat it till the thick substance above mentioned be intimately blended with the subjacent fluid. In this situation leave it at rest for twenty-four hours more; after which, pour it into a higher and narrower vessel, resembling a churn, where the agitation must be repeated as before, till the liquor appear to be perfectly homogeneous; and in this state it is called koumiss, of which the taste ought to be a pleasant mixture of sweet and sour. Agitation must be employed each time, before it is used.

"From a Tartar whom I met at the fair of Macarie, and from whom I purchased one of the leathern bags which are used by the Kalmuchs for the preparation and carriage of their koumiss, I learnt that the process may be much shortened by heating the milk before the souring be added to it, and as soon as the parts begin to separate, and a thick substance to be formed on the top, by agitating it every hour or oftener. In this way he made some, in my presence, in twelve hours. I learnt also, that it was common, among some Tartars, to prepare it in one day, during summer; and that with only two or three agitations: but that in winter, when, from a deficiency of mare's milk, they are obliged to add a great proportion of that of cow's, more agitation and more time are necessary. And though it is commonly used within a few days after preparation, yet, when well secured in close vessels, and kept in a cold place, that it may be preserved for three months or more, without any injury to its qualities."

The liquor thus produced Dr. Grieves conceives to be vinous.

Dr. Pallas, in the observations above alluded to, says that cow's milk is also susceptible of the vinous fermentation, and that the Tartars prepare a wine from it in winter, when mare's milk fails them; that the wine prepared from cow's milk they call airen; but that they always prefer koumiss when it can be got, as it is more agreeable, and contains a greater quantity of spirit; that koumiss, on distillation, yields of a weak spirit one-third, but that airen yields only two-ninths of its whole quality, which spirit they call arika.

From Dr. Pallas's experiment, it appears that cow's milk may be fermented with or without souring, provided sufficient time and agitation be employed; that no spirit could be produced from any one of its constituent parts taken separately, nor from any two of them, unless inasmuch as they were mixed with some portion of the third; that the milk, with all its parts in their natural proportion, was the most productive of it; that the closer it was kept (or, which is the same thing, the more difficultly the fixed air is allowed to escape during fermentation), the more spirit is obtained. He also informs us that it had a sourer smell before than after agitation, and that the quantity of spirit was increased by the fermented liquor being permitted to repose some time before distillation; that from six pints of milk fermented in a close vessel, and thus set to repose, he obtained three ounces of ardent spirit, of which one was consumed in burning; but that from the same quantity of the same milk fermented in an open vessel, he could scarcely obtain one ounce.

"From the time," observes Dr. Grieve, "that I had heard of koumiss, I had conceived an opinion of its importance in the case of certain diseases. I judged that a preparation of milk which could not be curdled by the juices of the stomach, while at the same time it possessed all its nutritive properties, with the superaddition of a fermented spirit, might be of essential service in all those disorders where the body is defective in the capacity for obtaining nutrition." The following

year, he observes, I resolved to try it, at Nischene Novogorod, under my own eye. As mare's milk could not be obtained in sufficient quantity in town, it was made at the seat of a gentleman not far distant, from which it was occasionally transported. The season was far advanced, however, before its efficacy could be tried. At last (about the middle of August 1782) I was consulted by the General Governor's nephew. He had all the symptoms of incipient phthisis: pain of the breast, dry cough, occasional hemoptysis, and great emaciation. He had not, however, become hectic. His two elder brothers had died of true pulmonary consumption. He had taken much medicine in a different part of the country, and had observed a strict antiphlogistic diet: but though milk had constituted the greatest part of his diet, yet there was no sign of recovery. He drank koumiss for about two months only, and that in rather an unfavourable season. But the consequence was, that all his symptoms disappeared, and that his flesh and strength returned; nor was there any reason to suspect a relapse at the time that I left the country"*.

In various cases in which *I* have employed this remedy (obtained once from asses' milk, at other times from cow's milk), I was led by a wish to obtain a form of milk which should suit and satisfy the stomach, without much reference to its asserted vinous properties, and under circumstances in which an unstimulating regimen was apparently expedient. Where its use has failed in my hands, the koumiss, I must observe, has appeared to me unsuccessfully prepared; as not possessing the obvious conditions of taste here described. I adduce the subject as one which deserves, both from myself and others, further attention.

It is, indeed, a painful consideration, and one which, if it does not occasion scepticism as to the resources of medicine, may at least inflict some degree of disgrace on our modes of using those resources, that there should exist so large a catalogue of absolutely unappreciated remedies; remedies, in this sense of that word, that they have, on competent authority, proved effectual in the removal of given disease; remedies, however, which having afterwards failed in other cases presumed to be similar, have been either discarded or left in that limbo to which their hit-or-miss employers ought rather to be consigned.

The cases above extracted from Morgagni have led me to consider the nosological principles according to which symptoms may be grouped. I have observed that they may be thrown together, in reference to the affection of a given organ or in reference to the mere fact of ordinary co-existence, under certain circumstances. There must, however, be left, as uncontained in either of these views, a large series of morbid states, of which no satisfactory explanation is afforded, either by affection of a given organ or by analogy with any group of usually co-existent symptoms. The following case illustrates this class:—

"A woman (says Morgagni*) who educated young children of noble families, was seized with a palpitation of the heart. Blood being taken from her arm, she was greatly relieved for about two days; but these having elapsed, the palpitation returned with such vehemence, that the breast was perceived to be lifted up at every stroke. At the same time, there was such a pain and difficulty of breathing, and fever, as gave occasion for suspicion of peripneumony. Blood being again taken away from the arm, she received not the least advantage therefrom; and having a vein opened in the foot, she died about an hour after, which was indicated by the pulse growing gradually less and less from the time of her being bled, and giving less resistance to the fingers of the physician when he compressed the artery; but the pulse was, at the same time, more quick. A great quantity of blood flowed from the mouth of the corpse. Yet, in the thorax and abdomen, every thing was sound. The head, as no suspicion of disorder being there had arisen, was not opened."

In this case it might be expected that disease of heart should disclose itself. The case, indeed, itself occurs in a letter, in which Morgagni discusses affections of that organ. In the following case, which occurred in my own practice, both the phenomena during life and the appearances after death were also inconclusive as to the nature of the case; though here they tended more strongly than in Morgagni's case to establish cardiac affection.

A healthy athletic man, aged 45, was attacked, the 9th of December, 1825, with sensations of extreme faintness in the course of a walk. This went off in the course of an hour, some active medicine being given him at a druggist's. The next day he felt much heat, burning, and uneasiness of stomach during the evening, which was obviated by a dose of magnesia acting on his bowels. During the night he was attacked by extreme pain at the lower part of the sternum, and equally acute pain down his arms: his pulse became intermittent at every third beat. Mr. Hargreaves had given him, at about one A.M. five grains of calomel, and had

* Duncan's Medical Commentaries, vol. iv. p. 126.

* Book ii. Letter 28, Art. 2.

followed it up first by two successive purgative draughts, then by forty minims of laudanum. The pain gradually abated, and when I first saw him—namely, the next morning—it was little felt. He had then a very anxious and distressing look; his pulse was quick, and occasionally intermittent, neither hard nor full. I ordered an emplast. lyttæ to the epigastric region. In about half an hour after I left him—viz. about 12 o'clock—extreme dyspnœa and tendency to syncope came on, but without any repetition of pain; his pulse began to lose strength; and these symptoms progressively increased until he died, at about half-past 5 of that day. The aperients had acted freely on his bowels in the course of the morning, and produced healthy evacuations. His head throughout was perfectly clear, and free from pain. The body was examined the next day, by Mr. Hargreaves and myself. The heart was healthy, except that the auricles were somewhat more red than usual. There was some effusion into the pericardium, and some effusion into the right cavity of the pleura; and an unusual degree of redness about the cardiac orifice of the stomach, at a point at which he had complained of pain. The pleura and the pericardium exhibited no morbid appearances. There was nothing else abnormal in the case. The head was not opened.

Now in this case, as well as in that quoted from Morgagni, there was pain about the region of the heart, and intense dyspnœa. In the latter case, there was also intense palpitation; in the former, syncope. In Morgagni's case nothing was disclosed by dissection that could throw light on the disease. In the case of Major D. (my patient), there was not enough to explain phenomena. If the two cases may be viewed as analogous, it is possible that in each sudden effusion occurred, embarrassing the action of the heart; which exhibited itself on dissection, in Major D., but may have been removed by the blood-lettings performed in Morgagni's case, though they did not arrest the fatal termination. In Major D.'s case, no blood was removed, or could have been removed, by us. The rapidity with which depletion effects the removal of acute forms of dropsy is well known. It should be observed, that Major D. had for some time been considerably harassed by legal proceedings.

A word more on the cause of death in this case. The disturbance to the action of the heart, referrible to disturbance of the functions of the stomach, is probably known to all of you; though what takes place under this disturbance, and how much more would render it dangerous to life or even fatal, can only be conjectured. It is not easy to surmise how Major D. was affected when that faintness which he described, took place in the course of a walk. On the following day, however, he travelled in apparently strong health down to Tunbridge Wells. Though complaining of uneasiness at the stomach, he ate a good dinner, and took some champaigne with it: and to obviate this imprudence he took a cold and flatulent purgative—the carbonate of magnesia; on the operation of which, in the course of the night, the above-named symptoms supervened. I know no other reason that can be assigned for the result than that the flatulent distension of stomach impeded the action of the heart, and occasioned sudden effusion into the pericardium.

One of the roughest, and apparently the most dangerous, attacks of dyspnœa, palpitation, pain down the arms, tightness across the chest, and sinking at the pit of the stomach, with intermittent pulse, that I ever witnessed, was occasioned in a young gentleman, Mr. Grant Allen, by imprudence in eating a large quantity of vegetables, and following it up by a large dose of the citrate of magnesia. I relieved this gentleman speedily by a dose of blue pill and squill, with a draught of the subcarbonate of ammonia and tincture of hop I learnt respecting him that active aperients always disturbed his respiration, and that he had had an attack similar to the one under which I saw him some years before. Had the stethoscope been at that time (1824) in use, it might have told me, in regard to the state of the heart, more than I could discover.

In the medical writings of the late eminent Dr. Parry, of Bath, there occurs* a case, as reported by the patient, which the Doctor heads with the following words—'Curious reason for a dropsy; self-deception.' 'I had been,' observed the patient, 'to dine on a Sunday with a friend in the country, with whom I drank a cheerful glass, but, according to my custom, very temperately. I came home and went to bed. I was always used to keep a bottle of gin by my bed-side, of which I sometimes drank a teaspoonful or two during the night whenever I had wind or pain in the stomach. On this unfortunate night, feeling my stomach not quite well, I put out my hand and reached the bottle, of which I drank, but did not discover that by mistake I had taken water until I had drank nearly half a pint. I felt it very cold on my stomach, and immediately endeavoured, as well as I could, to counteract the injury by the gin, of which I drank about two glasses. It proved, however, that the quantity which I took was

* Vol. 2, p. 457.

not sufficient, and in consequence of this inexcusable negligence I was taken with my dropsy the next morning.'

Whether the two glasses of gin were as much below the mark as this patient seems to have considered, may be doubted; but in his opinion that the glass of cold water was a very inappropriate potation, he was probably quite right.

Before I quit this topic I may notice another case, which occurred to myself, and which appears to illustrate it.

A gentleman consulted me in regard to the following symptom. He frequently found himself wake up in the night in a state of extreme dyspnœa, which compelled him to sit up for some time in bed under the agonies of apparent suffocation. His general health was good, and his frame robust. I knew him to be a man, not of intemperate, but of careless habits in his diet and regimen. After putting many questions to him on these points, I found that it was his practice every night before going to bed to take a large tumbler of cold water. This I prohibited; and it was the only change which I then made in his proceedings. From that time he experienced no farther attacks of dyspnœa.

The above remarks illustrate, as far as they go, a very important subject; namely, the unexpected occurrence of a fatal termination in certain unrecognized and obscure cases.

In the two fatal cases adduced, if the event was indeed unexpected, it may fairly be said that the attack was anomalous. But there exists a class of cases, in which the patient slips away from us not less unexpectedly, where the disease is perfectly recognized as to its nosological place, and when all the rules of art derived from that view have been observed. Such cases are frequent, and will continue frequent, until our estimate of a given disease shall have become more comprehensive.

A gentleman, who resided in the neighbourhood of Battle, in Sussex, aged about 54, of a tall, meagre frame, and bilious temperament, who took much exercise, and enjoyed generally good health, was known by his habitual medical attendant to possess that kind of constitution which passes readily into the sinking state under acute disease. By him, accordingly, we was treated successfully in occasional attacks of bilious congestion, to which he was subject. One of his ordinary attacks occurred to him while he was spending a winter at Bath; and there he was treated with an extent of depletion, which perhaps suits the average of such cases: blood was moderately taken from him. In the course of this treatment he rapidly sank, and died.

I regret that I cannot strengthen this case by more detail: my information, however, as far as it goes, is trustworthy. The greater part of the following case, which illustrates the same point, I witnessed myself. Mr. H——, of Sevenoaks, was a gentleman of a frame and temperament somewhat similar to the last mentioned person. He was younger by ten years, and proportionately more robust. In diet this gentleman was temperate; but in one point he was extremely intemperate, namely, in bodily and mental exertion. Besides the management of his own fortune, he engaged himself restlessly and unceasingly in every form of County business. In September of 1825 he was attacked by diarrhœa, with slight feverishness: for this he was treated by a very able practitioner with mild aperients, and subsequent absorbent remedies. The latter remedies took no effect in controlling it. The diarrhœa, totally unattended by pain, became violent, and strong opiates were given without the smallest effect. When I first saw him, about four days from the commencement of the illness, he was in a state of formidable prostration. The urine was sufficient in quantity, and not morbid in character; the fæces bilious, and not indicative of any ulcerative state of the intestines; there was no tenderness of the abdomen. In about twenty-four hours we succeeded in appeasing, indeed stopping the diarrhœa, by sulphate of quina, given in infusion of roses. He now rallied; and there seemed no reason to doubt his recovery. In this improved state he continued for some days. The diarrhœa then returned; and in three days from this relapse he died. It was to be regretted that on this relapse the quinine was not resorted to with sufficient promptitude and perseverance. During the last two days he was unable to restrain his motions, though perfectly conscious of the call to pass them. His mind at no period of the disorder lost its clearness. For twenty-four hours during this relapse no urine was passed; but it then flowed freely. No post-mortem examination was permitted. In default of the information which such an inquiry might have given, I am disposed to believe that this was one of those cases of which, at present, we possess few diagnostics; in which prompt and immediate stimulation is useful, and the smallest abstraction of power is resented.

Among those who have successfully pointed out the modifying influence of constitution on disease, there is no one to whom we are more indebted than we are

to our President, in his valuable paper, on what he terms the 'Climacteric disease.' That state he ably describes as blending itself with other complaints, assuming their character, and accompanying them in their course; and the views which he unfolds warn us of the mischief which may result from its being overlooked in the treatment of coexisting affections.

At no time, and under no circumstances, was the consideration here suggested more important than during the influenza of 1837. In many cases of this disorder, among aged men, it became necessary entirely to supersede the specific treatment of bronchitis by measures exclusively directed at the failure of vital power which then accompanied it. The application of this principle certainly imposed upon us a painful degree of responsibility; inasmuch as, if the patient, whom we might be treating for his constitution rather than for his nosological disease, should disappoint our efforts, and die, we were in danger from the equitable public of being accused of having overlooked the disease. But, it is one of the first duties of the physician, inasfar as his professional conduct is concerned, to contemn all censure except that of his conscience and of his medical brethren.

PRESERVATION OF BODIES.

To the Editor of the Medical Gazette.

Sir,

As the paper I inserted in the Medical Gazette for the 21st December—"On the Preservation of Bodies for Dissection,"—appears to have been very accurately analyzed by Dr. Babington, in your number for the 3rd January, I feel called upon to offer a few remarks on the several conclusions he has come to, under the different heads of expense, trouble, and efficacy.

In the first place, I may pass over the expense, which Dr. Babington has so very candidly yielded in my favour; remarking, *en passant*, that being now in possession of a better remedy, I will leave the various astringent substances considered by him as more appropriate than *vinegar*, to those who may not be disposed to make trial of the very decidedly superior antiseptic qualities of acetic acid; or, *par excellence*, pyroxilic spirit.

2ndly.—As regards trouble. If, as Dr. Babington states, the injection of the pyroxilic spirit into the aorta, &c., constitutes the whole of his process, I most willingly yield on this point; as, no doubt, it can be done in a very few minutes: yet, from the description given in the Medical Gazette for the 1st November, I was led to believe the trouble not to arise from the simple injection of the body, but the necessity of a wooden or slate trough (this, by the way, is in every dissecting room), into which the body was placed after injection; then the removal of this to a cellar, where the body lay for a certain time, in preparation, before being dissected. These were the particulars that induced the belief of the process being little short of a load of trouble. If wrong, I stand corrected.

I may now be permitted to say a few words on the long summer's day of trouble required for the puncturation of the body. When using the scalpel, or bistoury, I think more than an hour was consumed in puncturing, and an hour in brushing. Now these, added by eight, would certainly go beyond Dr. Babington's estimate: but, by the present method, that is, with several brad-awls, each one-eighteenth of an inch in diameter, stuck into a piece of wood about an inch apart, the body can be sufficiently punctured in half an hour, and the sheet, or cloth, which is applied closely round the body, may, with a sponge, be wetted with the diluted acid in a few minutes. In this way, two applications appear to be sufficient at this time of the year; and these may be made without interfering with the dissection.

3rdly.—Efficacy. To several of the objections raised on this head I must candidly confess Dr. Babington has greatly the advantage.

Firstly. Disfiguration of the skin appears to be of minor consideration; but not so the injury done by a scalpel, or bistoury, to the minute vessels, prior to injection of the body with wax, or any other material.

2ndly. Scalpel, or bistoury incisions, would doubtless divide many important parts; consequently, prevent their being accurately traced.

And 3rdly. Acetic acid appears to turn the thin muscles, such as those of the abdomen, paler, and the fibrous tissues and skin, white; but the large round muscles remain of a purple, or dark red colour. "The parts restored

to whiteness," quoted from my paper by Dr. Babington, referred solely to the exterior covering of the body.

But to the 4th objection I cannot so readily submit, inasmuch as the chief resolvent of organic matter is water; which, when meeting with the acid applied to the body, an interchange of ingredients seems to take place, which not only prevents the acid from acting on the fingers of the dissector, or on the edge of cutting instruments, but also counteracts the putrefactive process, by some of those hidden means which chemistry, no doubt, can satisfactorily unfold.

To conclude, I may observe, that my method has much less of science to recommend it than that of Drs. Babington and Rees; who certainly deserve well of the student, and those engaged in teaching anatomy, for the labour and zeal they have bestowed on a subject hitherto too little thought of; yet, from the general adoption, at this University, of the process I have thus so imperfectly advocated, I consider it to be, what I have already stated—a cheap, simple, and perfectly efficient remedy.

I am, Sir,
Your obedient servant,
THOS. MARSHALL.

27, Hanover Street, Glasgow,
January 11th, 1840.

ABSCESS OF OVARY COMMUNICATING WITH THE ILEUM.

To the Editor of the Medical Gazette.

SIR,

SHOULD you consider the following interesting case worthy of insertion in the MEDICAL GAZETTE, I shall feel obliged by your doing so.

Yours respectfully,
WILLIAM COOK.

Gainsborough, Dec. 27, 1839.

Miss G——, a dressmaker, of a spare habit, and sanguine temperament, had on the 3d of September, 1826, an attack of peritoneal inflammation, which continued with considerable violence for three days, but subsided under proper treatment, leaving her with a deep-seated pain in the right iliac region, and also in the left, which was not so severe, both of which parts were tender upon pressure, but there were not any tumors to be felt. The pain came on in paroxysms, and was relieved, each time, by a discharge of pus from the intestines. She remained much in the same state for more than twelve months, at the end of which time she became worse, and died November 1st, 1827. The post-mortem appearances were as follows:—

The body exceedingly emaciated. Thoracic viscera healthy, slight patches of ossification in the mitral valve. Abdomen—at the lower part of which the great omentum was adherent to the peritoneum lining the parietes of the abdomen. On tracing the small intestines, the lower part of the ilium was found strongly attached to the peritoneum, lining the pelvis. The ovaries were much diseased, being converted into a yellowish, fatty substance, with cysts, containing purulent matter. The right ovary adhered to the cœcum, and an opening existed into the intestine, near the ilio-cœcal valve, large enough to admit the fore-finger; thus establishing a communication with the ovary, and explaining from whence the pus came. The left ovary was in the same diseased state, except that there were not so many cysts, nor had any of them burst.

The peritoneum was also much thickened, where it is reflected over the bladder and uterus, and it was here more especially that the lower portion of the ilium was so firmly adherent. The parietes of the uterus were much thicker than usual in the unimpregnated state.

Many cases are on record,* in which adhesions have taken place between the dropsical ovary and the intestines, the fluid contained in the cyst having been evacuated per anum by ulceration. The apertures thus formed have generally been with the transverse or descending colon, or the rectum. Denman relates a case of enlarged ovary that occurred under his own care, where, for three successive days, a great quantity of gelatinous matter was passed by stool. But I cannot find a parallel case with the above, which is remarkable not only for the length of time it continued, and the communication with the intestine, but also for the quantity of pus which

* Vide Ramsbotham's lectures on the morbid affections of the puerperal and pregnant states, and the organic diseases of the uterine system, in the MEDICAL GAZETTE, page 643, Lecture the 19th.

must have been discharged during that time. I am sorry that I cannot give you more of the previous history of the case, as proper notes of it were not taken at the time.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

The Intimate Structure of Secreting Glands. By JOHN MULLER, M.D. *With the subsequent Discoveries of other Authors.* By SAMUEL SOLLY, F.R.S., &c. pp. 166. London, 1839.

MR. SOLLY is already favourably known to the profession by his work on the "Human Brain," and he has now laid us under fresh obligations in becoming the translator of Müller's excellent monograph on the Glands. The work before us, however, is something more and better than a mere translation; it is an analysis and a commentary, with a succinct account of the discoveries made since the publication of the original. Müller's "*De Glandularam Secernentium Structurâ Penitiori*," was published in 1830, and proclaimed its author a first-rate anatomist, ere his "Elements of Physiology" had procured him the distinguished reputation he now enjoys. Our countryman has had the rather irksome task of Anglicising modern Latin; or, as he expresses it in his preface, "of translating an ancient language written with a modern pen."—(p. 8.) The modern *pen*, it must be confessed, is too often but an awkward imitator of the ancient *stylus;* but Müller, we believe, "discourseth" pretty good Latinity, and Mr. Solly has rendered it into respectable English.

Müller commences with a critical history of our knowledge respecting the structure of the glandular system; but as he goes no higher than the time of Malpighi, the editor has briefly traced the antecedent progress of this branch of anatomy from Hippocrates to Wharton. He speaks of Bellini as having made some slight advance beyond his contemporaries, in that he demonstrated the tubular structure of the kidney. Due praise is awarded to Malpighi, who did more towards elucidating the true structure of the glands than any of his contemporaries—or even than his successors, for nearly a century following! This celebrated man affirmed that "the pericardium itself is a glandular body, which is constantly preparing a peculiar fluid;" "a principle of physiology," observes Mr. Solly, "only now in process of demonstration."—(p. 5.) An epitome is then given of the discoveries of Ruysch, Mascagni, and others, who contributed, by their isolated labours, to lay the foundation whereon Müller has so admirably raised the superstructure. His assuredly has been a gigantic task; and he rejoices with honest pride in the reflection, that this most important and difficult branch of anatomy has been cultivated and advanced chiefly by Germans. It may perhaps be questioned whether, in the midst of this gratulation, he has given the prominence that is due to the labours of some of our own countrymen—especially to the illustrious John Hunter, who was one of the first to demonstrate the true tubular structure of the glands, as shown in the preparations contained in his Museum. These preparations Müller barely alludes to.

The author, after observing that he intends to describe all the glands which throughout the animal kingdom exercise the same function, adds, "that he passes by the lungs, although they are of the nature of secreting glands, because they are well known; his object being to give new observations on things little known, or which have been entirely neglected."—(p. 20.) The 2nd book treats of the intestinal glands. In describing those of the stomach and the Peyerian glands, Mr. Solly has followed Boehm, in preference to Müller, and has given the whole of Boehm's observations, with several illustrative figures, from his work. The 3rd book treats of excreting glands; the 4th of those which are appended to the organs of generation; the 5th to the mammæ; the 6th to the glands subsidiary to the organs of sense; and the 7th to the salivary glands: while the four following books are occupied respectively with the pancreas, liver, kidneys, and testicles. In the chapter devoted to the liver of mammalia, the editor has not omitted an analysis of Mr. Kiernan's important researches, illustrated by means of the wood-cuts which originally appeared in the MEDICAL GAZETTE. He has also given a full exposition of

Mr. Corfe's views as to the structure and functions of the kidneys; and when we add that the writings of Owen, Bell, Morgan, Sprott, Boyd, Boehm, Davy, Bischoff, and Purkinje, have been laid under contribution, it will be evident that no pains have been spared to render the work as perfect as the present state of knowledge will allow.

We have no space for extracts, but must refer inquirers to the work itself; which, illustrated by numerous well-executed engravings in lithography, will afford them the latest and best information on this very interesting and important subject.

A Treatise on the Medical Jurisprudence of Insanity. By J. Ray, M.D. With an Introductory Essay by D. Spillan, M.D. London, 1839. Small 8vo. pp. 436.

This appears to be the reprint of an American work, though the editor has omitted to say so. It is sensible and argumentative, and will form a valuable addition to the libraries of those who intend to study forensic medicine thoroughly. Of course we do not pledge ourselves to the soundness of all the author's opinions: thus, at page 56, note, he is surprised that in the case of Donellan, when tried for the murder of Sir Theodosius Boughton, "the opinions of three or four physicians, as unknown to fame as the science they professed to understand seems to have been unknown to them, far outweighed with the court, that of John Hunter, though illustrated by his various learning, and supported by his reputation of unrivalled talents and original research."

There have been few men of great reputation of so little "various learning" as John Hunter; and if the reader will turn to Beck (to whom he is referred by Dr. Ray) he will find that John Hunter was wrong, and that the physicians unknown to fame were in the right. "Although he evinced great knowledge, yet, says Sir Astley Cooper, he regretted that he had not made more experiments on the subjects of poisons, before giving an opinion in a court of justice. He found himself a good deal embarrassed, and he used to express his regret publicly in his lectures that he had not given more attention to the subject before he ventured to give an opinion in a court of justice." (*Beck's Med. Jurisp.* 5th Edit. p. 965.)

School Botany; or an explanation of the characters and differences of the principal natural classes and orders of plants belonging to the Flora of Europe, in the botanical classification of De Candolle. For the use of students preparing for their matriculation examination in the University of London. By John Lindley, Ph. D. F.R.S. Professor of Botany in University College, London. London, 1839. Small 8vo. pp. 218.

This is a useful book, and is worthy of Dr. Lindley's reputation as a teacher of botany. Yet we are surprised not only that the University College of London should have made technical botany an essential subject for all those who intend to take a degree in Arts, but that it should have been thought necessary to have so copious a grammar of the science. For in the first place we should have thought the ancient and modern languages, with history, geography, and the elements of mathematics, to be of superior importance, and quite sufficient to fill up the mind of lads of sixteen, without this addition; and supposing the first objection to have been overruled, we should have been contented with a manual of half this size. But, *Diis aliter visum est*, and the path to honours will henceforth be strewed with flowers. At all events, this is a capital introductory work for all who intend to study botany with zeal, and is not only adorned, but illustrated, by a hundred and sixty-three woodcuts.

MEDICAL GAZETTE.

Friday, January 17, 1840.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
Cicero.

MEDICAL EDUCATION AND PRACTICE.

In the present time of agitation for medical change, it is not improbable that many different plans will be offered to public notice; and we therefore propose to notice and offer remarks upon each as they arise. With this view we shall take the first that has yet appeared—

"Observations on Medical Education, with a view to legislative interference," by Mr. Jones, of Leamington.

The object of this brochure is to offer to the public and the legislature two plans for the improvement of the general condition of medical practitioners; the first, that every one who passes the College of Surgeons should be also obliged to obtain the license of the Apothecaries' Hall—and the second, that every one so diplomatized, "before he shall be permitted to practise on his own account, shall be compelled by law to pass a probationary period of two years with some practitioner who has been in practice ten years, taking that as a minimum period; and that at the expiration of this time a license or qualification to practise shall be granted him from the government, on the testimony," &c.

We regret to find that Mr. Jones's object and intentions are better than his plans for improvement; the former are excellent, and the whole tone of his work shows that he is anxious to entertain every suggestion that may tend to the good of his profession, impartially and dispassionately; the latter we shall proceed to consider.

We should object at once and generally to any considerable interference of the legislative in the details of the schemes of medical or any other education. The object of governments should be rather to afford protection and just powers to those who manage education, than to be themselves school-masters. Whether by the establishment of Universities, or boards of education, the foundation of schools, or merely by the granting of money, the legislature should supply the means for others to make use of, who are more conversant with, and more exclusively interested in, the subject of education. Beyond this support and protection legislative interference is generally mischievous. Of all the motives by which the members of governments are influenced, very few lead them to be favourable to the advancement of science for its own sake; and in nearly every instance in which we have had an opportunity of observing the conflict between the benefit of learning and the attainment of a political object, the cause of learning, whether in the forwarding of public education, or in the encouragement of personal talent, or in any other way, has suffered a defeat. We cannot therefore look forward, with any sanguine expectation of good, from the disposition which is now leading so many to require that the legislative should determine what are the best schemes of medical education. It matters little what are the general politics of the government from whom the interference emanates; in any case, if they meddle with details, we feel no doubt whatever that the result will be a worse state than that which at present exists. The only object which government should now have in view should be to determine what classes of persons should be permitted to practise, and receive money, either for their medical advice or for medicines; and having certain instituted bodies of examiners, as agents, to carry into effect their general intentions in any way that seems most advisable, to endow them with sufficient authority, and definite powers, to enforce obedience to their laws.

For example, a considerable portion of Mr. Jones' book is occupied in illustrating the insuperable evil with which practitioners have long been familiar, viz. the facility with which a person, entirely unlicensed, may practise in any branch of the profession, or with which one licensed for one branch can engage, without fear of punishment, in all the others. At the present time any man may practise as a physician, in spite of the College of Physicians, who never

exercise the privilege of their charter, even in the protection of those who live within the prescribed limits of its power; any man may practise as a surgeon, for the College of Surgeons has no power whatever to protect its members from such opposition; and any man may practise as an apothecary, under the guise of keeping a druggist's shop, in which he sells his own materials. Thus, with three licensing bodies, no man's license is, (except for the respectability which it gives him in the eyes of the few who can appreciate it), worth one straw; for no one of those bodies has sufficient power to prevent the unlicensed from infringing their rights. It is absurd, therefore, to talk of whether there shall be one faculty or ten, so long as those who belong to no faculty can obtain from the public all the benefits that should be the exclusive privilege of those who are duly educated and diplomatized; and unless the legislature is prepared to define the duties of each class of practitioners, and to secure the privileges of each from invasion, they had much better leave the whole in their present confusion, and let the licensed fight their own battle with the quacks and pretenders.

Among the ways in which one class of licensed practitioners infringes upon the privileges of another, Mr. Jones alludes to the practice which, he says, is becoming frequent in towns, of surgeons, not licensed as apothecaries, sending their prescriptions to druggists; and it is to prevent this that he proposes his first alteration. We cannot see the danger or inconvenience which he ascribes to this; it cannot be practised by any but surgeons of some standing and reputation, and who are, therefore, well fitted to undertake cases of all kinds: no others would receive from the public sufficient remuneration in this capacity of consulting surgeons. The greater error in our opinion is, in the present position of druggists, who have risen to occupy the place which the apothecaries held, previously to the year 1815. The apothecary has in fact ceased to exist, having advanced by increase of general and professional attainments nearly to the station of the physician; while the druggist has risen to be the apothecary without the restraint which it was found advisable to impose upon his predecessor. Now no one will deny that that part of the principle of the Apothecaries' Act which prevented unqualified persons from prescribing or selling drugs, was good, but, to be useful in the present day, it should be shifted from the apothecaries, who now never, or very rarely, sell drugs, to the druggists, who make it their business both to prescribe and sell, although the large majority of them are qualified for neither.

In any legislative interference, then, with the condition of the medical profession, this should be the first object—to put an end to the present impunity with which unlicensed men are permitted to commit frauds on the public, and to do gross injustice to the authorized practitioner. Whether they be chemists, or midwives, or advertising quacks, or mere bone-setters, the injustice to the regular practitioner is the same; and the whole evil ought to be remedied by some measure sufficient for the punishment, by immediate conviction, of each of this class of *poachers*. This, therefore, should be the end for which all medical men, of whatever denomination, should strive—to be privileged as well as diplomatized, and to have their peculiar rights secured from invasion. Let them combine to keep out their common enemies, and then let them consider how they should arrange themselves.

The second novelty of Mr. Jones's observations is the proposition that every one who has obtained the diplomas of

surgeon and apothecary should act as an assistant to an older practitioner for two years before commencing practice for himself. The arguments by which this is maintained to be advisable are numerous, but some of them are rather chimerical, such as the agreeable social and domestic relations that would thus be established, the advantages of all the facilities for tourizing and attending medical associations, which the old practitioners would gain, and so on. We fear that experience does not prove that the advantages of having an assistant are so great as Mr. Jones describes them; at least the allowance of from twenty-five to forty pounds a year, the usual salaries of assistants, does not argue that a high pecuniary value is placed upon either their services or their society.

But not to mention the numerous inconveniences and anomalies which such a system would give rise to, and many of which Mr. Jones has entirely overlooked, it would surely be absurd to condemn a man to further study as a subordinate in his profession, after he has proved himself capable of undertaking its practice on his own responsibility, by passing examinations which are deemed fair tests of his competency. Want of pecuniary means, or of influential friends, or of any definite prospects of advancement, are, of course, sufficient motives to induce a young practitioner to act as an assistant to an older one; but most assuredly such an occupation is not so agreeable, but that all who can, avoid it, and probably none undertake, except with the hope, however distant, of obtaining an introduction to independent practice (a hope which it is here thought advisable to destroy), or to a partnership. If there be one sign which, more than all the others, marks disorder in the present condition of our profession, it is the necessity by which young men of talent and industry, and who have acquired, against every obstacle, an ample knowledge of their profession, are forced, when their education is completed, still to continue dependent, and to earn a scanty maintenance in a subordinate situation. No doubt the kind of engagement that Mr. Jones proposes would make the office of assistant in some measure less irksome than it is now; but let him ask any of the many who are now so engaged, whether any change of circumstances could make the period they thus passed "one of unmixed pleasure as well as great improvement." The situation of medical assistants is so far from being either agreeable or useful, that even the Utopian sketch which our author draws cannot induce us to wish any thing more fervently than that the necessity of occupying it might be for ever removed from the members of our profession. Far, then, be it from us to join in any plan that should make its annoyances the lot of all.

But such a scheme is totally unnecessary. A judicious and extended course of education may be made amply sufficient to give every pupil, as far as his intellects will allow, a fitness for independent practice; and examinations may be made securities against any but the competent being admitted to practise, if all but those who pass them are put down. In a word, the pupil may and ought to pass into the practitioner without the prolonged and painful transition-state which this scheme of assistantships would force him to undergo.

MR. MAYO AND MR. WAKLEY.

To the Editor of the Medical Gazette.

Sir,

May I beg the favour of your giving insertion to the following correspondence between Mr. Wakley and myself, with the narrative of the circumstances leading to, and terminating it.

In the Lancet of January 4th, a letter from Mr. Aeton appeared, referring to some lectures lately published by me in the Medical Gazette, and especially to experiments mentioned in them. To Mr. Acton's letter the following note was appended, bearing the editor's signature:—

"We believe that Mr. Acton has bestowed infinitely more notice on the opinions of Mr. Mayo than they merit. The papers on 'Syphilis' are evidently nothing more than a dying puff; and as for the experiments on inoculation, they probably exist only on paper.—Ed. L."

This note I accidentally saw on the afternoon of January 4th, and shortly after communicated on the subject with a friend, who concurred with me in opinion that it was compulsory upon me to require of the Editor of the Lancet to retract or this broad imputation on my veracity. Accordingly my friend called the same afternoon at Mr. Wakley's, whom he learned to be indisposed, and not likely to be able to see any one on business before the Monday or Tuesday following. On the afternoon of Monday, the 6th, my friend again called at Mr. Wakley's, whom he found still unable to see him. Under these circumstances, I addressed to Mr. Wakley the following letter:—

19, George Street, Hanover Square.
Jan. 6, 1840.

Sir,—I regret that I am compelled, while you remain confined by indisposition, to address you on a personal matter. In the Lancet of last week, a note is added to Mr. Acton's letter directly impugning my veracity, signed "Ed. L." I beg to call your attention to it, and to the impossibility of my continuing to remain under such an imputation one moment longer than I can help. I must therefore call on you to publish in the next number of the Lancet, a complete disavowal of the offensive and injurious import of the part of the note referred to.

I am, Sir,
Your obedient servant,
Herbert Mayo.

Thomas Wakley, Esq., M.P.

The only notice taken by Mr. Wakley of my letter consisted in inserting the following paragraph in the Lancet of January 11th:—

"Mr. Mayo.—This gentleman having called our attention to a note which was appended to the paper of Mr. Acton, in the last number of the Lancet, we have to inform Mr. Mayo that it was written by the sub-editor, and did not happen to be submitted to the inspection of Mr. Wakley before publication. On referring to the sub-editor on the subject, and making known to him the complaint of Mr. Mayo, his reply is, that he 'holds himself to be responsible for the import of the remarks which the note contains.'"

As this paragraph contained no disavowal on the part of Mr. Wakley of the imputation upon my character made in his name, I felt it to be necessary to renew my appeal to him to do me that justice; and I wrote the following letter, which was delivered at Mr. Wakley's on Saturday afternoon:—

19, George Street, Hanover Square.
Jan. 11, 1840.

Sir,—I regret that you have compelled me to address you again on a subject that might have been satisfactorily terminated by your promptly doing the justice I demanded, for the blow aimed at my character in a publication of which you are the avowed editor. The wrong to me has been done in your name, in your publication, and, as you now allege, by one subject to your authority. If the office which you have thought fit to delegate to another has, in your opinion, been abused, it is incumbent on you to disclaim and atone for the injury that has been inflicted through its abuse. If you do not admit that your confidence has been abused, I must infer that you adopt the imputation against me. Under these circumstances, I do not allow your right to renounce responsibility, nor do I abandon my own right to demand reparation from you. I therefore repeat my call on you, to publish in the next number of the Lancet a complete disavowal of the offensive and injurious import of the part of the note referred to in my first letter; and also an expression of your regret at its insertion in a publication under your control.

I have to request an answer to this letter, stating explicitly whether you will or will not comply with the application contained in it. If I do not receive an answer from you before three o'clock on Monday next, the 13th inst., I shall consider your silence as a deliberate and final refusal.—I am, sir,

Your obedient servant,
Herbert Mayo.

P. S. To avoid the possibility of misapprehension I now copy the passage in the original note in the Lancet of January 4th: "and as for the experiments on inoculation, they probably exist only on paper."

Thomas Wakley, Esq. M.P.

To this letter Mr. Wakley sent the following reply:—

Bedford Square, 13th Jan. 1840.

Sir,—I might, I believe, with strict propriety, have declined noticing your first letter, further than merely to acknowledge the receipt of it. You therein made a demand on me, as the editor of a public journal, which cannot be justified or enforced by any known law or custom. In the letter which you sent to me on Saturday evening, your demand was repeated in a still more earnest manner.

I would have you reflect for a moment on the nature of the position which you have assumed in this transaction. How stands the case between us? A "note," which proved offensive to you, was published in my journal. You wrote to me to complain of the import of it, and to require that I should disavow the production. I sent your letter to the sub-editor, who acknowledged that the "note" was written by him. Feeling, as I did, that I had no motive for writing or publishing such a "note,"—feeling also that I was not in possession of information which could justify me in allowing my name to stand as that of the author of such a note, I unhesitatingly, and instantly, acquainted the readers of the Lancet that it was not written, or even seen, by me, before it was published.

More than this I could not do,—less than this I might have done, without injustice.

Now what is it that you further require from me? why, that I should disavow a "note," which my readers have been already informed was not written by me, nor was seen by me, before it was published, the declared author of it stating, at the same time, that he held himself to be responsible for its import.

My reply, then, is, that I shall not make any such disavowal as you require, and that this, my refusal, is peremptory and final.—I have the honour to be, sir,

Your obedient servant,

Thomas Wakley.

Herbert Mayo, Esq.

This letter having been received, my friend waited upon Mr. Wakley, by appointment, on Tuesday morning, and delivered to him a note, requiring the only further satisfaction that it was left for me to demand.

Having read the note, Mr. Wakley told my friend, finally, that, "as a conservator of the peace, and in his situation as a judge of a criminal court, he could not act upon the message delivered to him: that it was quite impossible he could do so." Being asked, and strongly pressed, to give a written answer to that effect, he positively declined doing so, observing, that he doubted whether he was even justified in receiving the message, and that he might compromise his office, if he were to give any written answer. Of course my friend felt that he could no further press Mr. Wakley to do so.

The reader will see that Mr. Wakley's refusal publicly to disavow an imputation on my character made under his signature in the Lancet, necessitates the publication of this correspondence, in which Mr. Wakley admits that "he was not in possession of information which could justify him in allowing his name to stand as that of the author of such a note."—I am, sir,

Your obedient servant,

Herbert Mayo.

19, George Street, Hanover Square,
January 14, 1840.

CLINICAL LECTURES

ON THE

EXAMINATION OF THE SICK,

AND THE PRINCIPAL SOURCES OF FALLACY ATTENDING PRACTICAL DIAGNOSIS,

Delivered at the St. Marylebone Infirmary, November, 1839,

By John Clendinning,
Senior Physician.

Preliminary Remarks. — Of the three learned professions, that of the physician may be said to be pre-eminently conversant with facts. Medicine has its theories and hypotheses, its assumptions and its conjectures, as well as other branches of professional study; but medicine differs from its sister faculties in this—that its appeal is to nature and the visible creation, and, consequently, that medical inferences and opinions with respect to truth admit of proof and disproof by scientific experiments and natural events, so that the physician, if he indulge the "extravagant and erring spirit" of speculation, is liable commonly to the rebuke of a contradicting experience. This comparatively great facility of application to medical opinions, of the test of sensuous observation, has contributed much towards that habitual cautiousness of expression both before the sick, and in consultation, that characterises the wise ones of our profession.

And this cautiousness of statement is well founded, whether we look to the convenience of the public or the interests of practitioners. The great complexity of all physiological causation, and the great consequent uncertainty and variability of ulterior results in medicine, conspire, with the facilities of detection of error already pointed out, to justify the prudential circumspection referred to as characterising the habits of the profession in their intercourse with their employers. But there is a further circumstance in the position

occupied by the profession, that renders it necessary that practitioners should be cautious, not only as to what they do, but also as to what they omit, and the circumstance is this:—All that is known of disease is in possession of the profession, and is known, it may be said, to none beside. Not one man of science in fifty who has not made medicine his especial study, is acquainted with the structure of any one tissue or organ, or with the laws of any one function of his own body; much more are the general public ignorant of the whole matter. Now gross ignorance, such as is the common lot regarding physiology, &c., has opposite bad effects; it makes the same persons at once credulous towards the unscrupulous pretender, and distrustful towards the instructed but not boastful practitioner; and here is an additional and strong reason for the greatest forethought and circumspectness on the part of the genuine physician. It is therefore necessary that the man who will not practise chicanery and humbug, and whose principles will not admit of his using those artifices and that *finesse* which are but too common even within the pale of legal practice, should, so far as he can, compensate himself for the disadvantages under which he labours in competing with the charlatan, by every useful precaution and defensive observance. Of these prudential measures, one of the principal is a personal examination of the patient, at once minute, comprehensive, and deliberate.

Examination of the sick.—The first step in the proceedings of the practitioner of medicine or any branch of it, is the investigation of the case or cases to which his attention is called. From the examination of the sick, and the inquiries thence arising, and from those sources alone, can be obtained the data necessary for correct conclusions as to the signs, causes, and nature of diseases, and for judicious treatment. To secure those data, it is necessary, in the first instance, fully to inform ourselves, and, as far as possible, by personal examination, of every particular capable of contributing towards our object.

To render this first most important step at once certainly and easily accomplished, it is necessary to proceed in an orderly manner, and according to a suitable method, a method sufficiently comprehensive to leave unexplored no quarter in which any important circumstance might escape observation.

For this purpose it is necessary that we should bear in mind the objects and scope and general importance of the matter we have in hand, and the extent of the means at our command for its accomplishment, as well as the various practical uses we are likely to be called on to make of the information which we are by such means able to acquire.

Its principal ends.—Now the practical objects of professional examination may be stated generally to be threefold; viz.—1. To detect and to ascertain the proximate causes and physiological nature and tendencies of any important morbid actions that may be present. 2. To announce the probable issue of the case under observation. And 3. To determine the indications of treatment; in technical words, to establish the diagnosis, prognosis, and the plan of cure.

Now of those objects, generally speaking, the diagnosis is the most important. In instituting a diagnosis, we determine the name, seat, and physiological character of the disease; we ascertain the stage at which it has arrived: the changes, functional or organic, it may have occasioned; the complications by which it is, or is likely to be, aggravated; and to a considerable extent, also, we determine the causes that have produced it, and, in an indirect manner, the agents that may suppress or mitigate it;—and at the same time, we anticipate the inquiries upon which a prognosis must be founded: so that a comprehensive diagnostic investigation might be held sufficient to elicit all the materials required for the succeeding steps. But in many cases, notwithstanding, owing to peculiar circumstances, diagnosis (using that word in its ordinary sense) becomes subordinate to other steps—viz. prognosis and indications of cure. When a practitioner is required to take charge of a case from its commencement, the pathological diagnosis, as already stated, is commonly the principal step, and that upon which must hang every other. But we are often consulted in obscure cases, when the pathological diagnosis is scarcely practicable, at least with any close approach to certainty or precision; and the diagnosis of ulterior tendencies, and leading indications in such cases (in other words, our prognosis and treatment), must, of course, be comparatively, if not quite, independent of any opinion respecting the physiological nature of the disease. We are also not unfrequently called upon for opinions on isolated questions; such, for example, as the existence or non-existence of any or of some given disease. This is a branch of diagnosis of great importance in several departments of official practice—viz. the business of life assurance offices, of benefit, friendly, and other analogous societies; that of the recruiting department in the army, navy, police, &c. We are also often called upon to treat cases whose physiological nature has been previously decided on; so that each of those

three great branches of professional procedure, technically known as the diagnosis, prognosis, and cure, or the determination of the physiological nature, and of the ulterior tendencies with respect to life and health, and of the indications of treatment of the disease, are proper and necessary objects of separate study; and of each, a complete mastery, or something not falling very far short of that, is necessary to the successful practice of medicine as a liberal art.

Diagnosis the most important.— But notwithstanding this high importance of those three branches severally considered, there can be no doubt that, on the whole, diagnosis is the principal test of the physician's capabilities. This will appear more clearly from the following comparative view; and first, as to prognosis:—

Lay persons, as is well known, are commonly much and favourably impressed by examples of successful prognosis; for in physic, as in other things, he that seems to foresee the yet future and contingent, is sure to dazzle, and very likely to master, the minds of ordinary observers. There is no instinct more universal, no appetite more craving, than the desire to know what is yet to be; and praise and profit are sure to follow even apparent manifestations of power in the practitioner to satisfy that appetite. A reputation has thus sometimes been made by a lucky guess or two, and discredit has often followed an erroneous, though perfectly justifiable, anticipation or prognostic. But it is obvious that the correctness of our physiological diagnosis, or the success of our treatment, should depend in no important degree on our conjectures as to the probable ultimate result of the case, whether in health, death, or some intermediate condition. We have, in medical practice, to deal with present realities, rather than with future contingencies. Whatever may be our anticipations or apprehensions, our business is to aim at the restoration of health, when that is possible, and in every case to struggle with disease in the endeavour to correct the actual erroneous efforts of nature; to restrain excessive action, to sustain failing energy, to soothe urgent pain; in a word, to restore ease and prolong life in all cases, and, in the worst, to secure the *euthanasia*. In the technical sense, then, of the word, prognosis is of minor importance, except, perhaps, to the private or pecuniary interests of the practitioner, and so far as it may affect the confidence reposed in him by the sick.

Treatment a doubtful test of ability.—Next after prognosis, in the apprehension of common observers, comes the ultimate result of disease, as a test of professional ability. But even the laity are aware that the issues of disease depend on complex causes, and are difficultly judged of. The truth is, that treatment is no test of ability in its ultimate results, unless observed on a considerable scale, or under circumstances peculiarly favourable for the analysis of causes and effects; for the results of diseases and of treatment depend, in severe cases, in but a small degree, on remedies, in a large proportion, and probably in the majority of instances; and this for two principal reasons.

1st. That remedies are seldom employed in their full power; and the reason of this is, that perhaps the very first rule in practice is, to do no harm; *i. e.* not only to avoid the use of means, in any degree, likely to deteriorate the condition or diminish the probability of recovery of the patient, but even to abstain, as far as possible, from the employment of any agents of doubtful efficacy, or of unproved safety. In prescribing them, with a strict attention to avoiding every chance of doing harm, we are, for the most part, restricted in the choice of our means within very narrow limits, and to the use of safe, if not always effective, quantities and forms of medicine: in other words, we are restrained from putting forth all our strength, or from using remedies in their full power, excepting in rare combinations of circumstances; and this makes good one of the causes assigned for the limited influence of remedies over the results of grave diseases.

2nd. A second reason is this—the capability in the sick of surviving the morbid actions that constitute their complaints, and of enduring the various privations of air, food, light, &c.; and the depravation and loss of nutrient fluids, by bleeding, &c., to which, in severe attacks, they are in one degree or another unavoidably subjected, depend on numerous and various causes, many of which are beyond the practitioner's control. "The issues of life or death" in practice must obviously depend very much on circumstances anterior to treatment, such as, habits of life, hereditary disposition, original conformation, idiosyncrasy, previous diseases, AGE, sex, &c. &c.; every one of which may most materially have modified the susceptibilities of the sick, and created unmanageable tendencies to one morbid action or another, or permanently weakened or otherwise maimed some principal organ or function. Hence it is that the numerical difference is so slight between different and even apparently opposite modes of practice, when viewed in the gross, and without due allowances or an impartial analysis; and that physicians, whatever methods they pursue, are enabled to effect so much less considerable a proportion

than might be expected, of perfect cures, in cases of great urgency, which, in all probability, would not, with rest, abstinence, and time, have been more or less completely cured by the restorative energies of nature. The truth is, that in a very large proportion of the cases that apply to the physician, to effect cures would be little, if any thing less, than to realize the fable of Ovid, by turning age into youth, remedying irretrievable decay, and in a word, not mending damaged health, but making new constitutions. Add to the preceding causes of failure the minor ones arising from cowardice, fastidiousness, negligence, self-will, &c. in the sick or their attendants, that make the sick shrink from the use of the means advised, or refuse or neglect to employ them—all of them sources of disappointment and annoyance to the practitioner, more or less, in every walk of private practice—and we can be at no loss to understand how the ratio of partial or apparent failures to perfect cures is so high. It is clear, therefore, that treatment is no easily applied or unexceptionable test of practical skill.

Further proofs.—Of the three principal parts, then, of the practitioner's duty, viz. diagnosis, prognosis, and treatment, the former, or physiological diagnosis, is, though least brilliant and dazzling in its successful results, notwithstanding the most important for the student to master. It is the most legitimate test, and is actually the principal test by which the practitioner is judged of by his professional brethren. As it is more nearly within the means of ordinary acuteness, and of an imperfect art, to detect morbid actions and conditions actually present, than it is to foresee and provide for future contingencies, (such as the effects of remedies and of the continued operation of morbid action on the constitution and powers of life), so it is the feeling of the profession, that it is generally much fairer to take as a test of ability the detection than the cure of disease. For this reason, therefore, a medical man takes rank amongst his fellows very much in proportion to his physiological or diagnostic tact.

But this is not only the fairest test of professional knowledge, but is also the best pledge of practical skill. "The practice of physic," it is affirmed by Sydenham, "consists principally in ascertaining the indications of treatment;" and the practitioner that can detect the seat and nature, and thence infer the tendencies of a morbid action, is, unless "quite green and fresh" from College, little likely to fall into any serious error in projecting the treatment; little likely to use stimuli in sthenic conditions or diseases, for example, or sedatives in asthenic subjects and cases; or to use blood-letting where he should use wine, or chalybeates, and other tonics; or to use tonics where he should employ evacuants, febrifuges, &c. Further, he is unlikely to fall into a very common and very gross mistake, viz. of being bold and active where he should be timid and inert, or soothing and expectant, or vice versâ. From all these considerations, it follows that diagnosis is the student's first and most important object of study.

[To be continued.]

CONSIDERATIONS ON MEDICAL REFORM.

By a Professor in the School of Physic in Ireland.

[Concluded from page 569.]

(*For the London Medical Gazette.*)

The observations in the Medical Gazette of the 3d January, did not refer to the obstetric or pharmaceutical branches of the profession. Midwifery being, however, a department of medicine and surgery, the remarks as to these may be considered as applying to it; and it is to be presumed, that a Board, constituted for the purpose of securing the adequate medical and surgical information, would not neglect to test the obstetric qualifications of the candidate.

With respect to pharmacy, the abuses are numerous. There is not (it is believed) any Apothecary's Company in Scotland, and those in England and Ireland are nearly inoperative. They may, if they choose, persecute the regular practitioner, but the ignorant, reckless, and fraudulent vender of nostrums, can set them at defiance. This partly arises from the form of prosecution prescribed by law, and partly from the general immunity as to selling every sort of medicine, provided it be not compounded on the premises. Corrosive sublimate, morphine, and prussic acid, or a ready prepared compound of the three, can be sold by a grocer, or he may vend the ingredients of a prescription, and direct the purchaser how to mix them—thus defrauding the fair apothecary, and that to the imminent peril of the public.

There ought to be three Apothecaries' Companies, in England, Scotland, and Ireland. Each should have the authority to enact salutary regulations for the due education and examination of candidates for their licence. In order to establish a proper rivalry, and to prevent injustice, the licence of one Company ought to entitle the possessor to admission as a licentiate of the rest, merely on payment of the

fees. Thus by passing his examination before any of the three, he could acquire the right of practising in any part of the United Kingdom. This is not the case at present. The London apothecary can be fined 20*l.* for each offence if he practise in Ireland, without undergoing the examination of the tyro.

No person (existing interests being preserved) should be permitted to practise pharmacy, or in any way to vend by retail, medicine, whether simple or compound, without the licence of the Apothecary's Company of the Kingdom, under a penalty of 5*l.* to be levied by summary process before the Recorder or a bench of magistrates. This law, however, not to apply in the case of a practitioner being a physician or a surgeon at the time of the passing of the act, or a licentiate of the faculty hereafter, who might supply medicine for the use of his own patient solely, and who should not keep an establishment for their sale, or profess to vend drugs or medicine.

No person ought to be capable of being a licentiate both of an Apothecary's Company and of the Faculty of the United Kingdom. In case of any one obtaining the two licences, the privileges connected with the possession of each should be forfeited on conviction.

The above plan seems to be more likely than most of those that have been suggested to attain the objects in view, and that without a greater interference with existing interests, or a greater infringement on the liberty of the subject, than might be expected to receive the sanction of the legislature. The objects thus attained would be—

1st. A security for a due surveillance over the profession of pharmacy, which, being the executive department of the healing art, is especially apt, if mismanaged, to prove detrimental to the public.

2dly. The separation, as far as perhaps is practicable, of the profession of pharmacy, from that of medicine and surgery.

3dly. (See the Medical Gazette of 3d January,) a rectification of the evils attending the issue of diplomas, which qualify, by letters testimonial, practitioners who are unqualified as to skill. Thus a false security is begotten, both on the part of the superintendent of public institutions and the public at large, as to the professional knowledge of those in whom they repose confidence; and which is more detrimental than if diplomas were not in existence at all, and if the patient were thrown on other resources (which he now neglects) for the purpose of determining the competency of his medical attendant.

Till measures are adopted for the purpose of making it the *interest* of "every man to do his duty," whether he be the head of a college, a teacher, or a student, and so long as their interests are the other way, it is not surprising that corruption should exist and thrive. The rectification of such abuses demands the attention of every *real* medical reformer.

INFLUENCE OF CLIMATES ON PHTHISIS.

Letter from Dr. Chervin, Member of the Royal Academy of Medicine, to Dr. Amédée Latour.

Sir,

You have requested me to furnish you with the information which I have collected during my travels, relative to the influence of climates on the production, progress, and cure of pulmonary phthisis. I do so with much pleasure; but, unfortunately, my information is neither so abundant nor so precise as I could wish.

I have visited, in the New World, Cayenne, and French, Dutch, and British Guiana; and, with very few exceptions, all the islands that compose the Archipelago of the Antilles, and the sea-coast of the United States, from New Orleans to Portland in the state of Maine.

In the low regions of the tropics that I visited, Réaumur's thermometer is at about 20° to 25° (77° to 88¼° of Fahrenheit) during the whole year; it does not fall lower, except during the last days of December, and the first days of January, and that only for a few hours before the rising of the sun. Thus, for example, at Guadeloupe, which is situated in 16° of north latitude, during the night, at the season just mentioned, Réaumur's thermometer is sometimes as low as 16° (68° of Fahrenheit), but as soon as the sun is above the horizon, the mercury begins to rise, and in the afternoon is generally from 20° to 25°, and even higher.

At the Havannah, which is in 23° of north latitude, towards the end of December 1819, and the beginning of January 1820, I saw Réaumur's thermometer, at five or six in the morning, at 12° (59° of Fahrenheit). Yet even then it was very hot in the course of the day. Notwithstanding the high temperature of the climate of the Antilles, of Guiana, and Cayenne, phthisis is common enough in those countries, though less frequent than in France; but its course is generally less rapid in the low regions of the tropics than in our climates. It is only while the north-east winds blow, that is to say, during November, December, and January, that the disease makes rapid progress in

places exposed to the action of these winds, which cause many diseases of the chest, and aggravate those already existing. I do not know what proportion of the mortality is caused by phthisis, in the Antilles. No case of cure has come to my knowledge either in those countries or in any others.

The frequency and severity of phthisis is not the same in all the United States. The disease is very common and very rapid in its course in the eastern states, which are Maine, New Hampshire, Vermont, Massachusets, Rhode Island, and Connecticut. It occurs less frequently, and goes through its different stages with less rapidity, in the middle states (New York, New Jersey, Pennsylvania, Delaware, and Maryland) than in the eastern ones. Lastly, it is rarer and slower in the southern states, namely, Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, and the Floridas.

Thus you see that the influence of a cold and particularly of a very variable temperature, upon the production and course of phthisis, is very obvious in the United States.

A member of the Royal Academy of Medicine, M. Gérardin, has asserted that the frequency of this disease in the United States is owing to the great use made of calomel in the treatment of different diseases; but this is a most important error; for this remedy is employed as frequently, and in as large doses, in the southern, as in the eastern States, and yet in the former consumption is infinitely less common, and runs through its stages with much less rapidity. If diseases of the chest are more common among the inhabitants of North America than in South America and Europe, this evidently depends on the severity and inconstancy of the climate; but these affections do not mow down "the greater part of the youth of America," as M. Gérardin affirms. They cause, according to the situation, about a quarter of all the deaths: but this is not the case in the southern States, where many of the inhabitants of the eastern and middle States pass the winter, to avoid the diseases of respiratory organs which harass them at that period of the year, or, at any rate, to diminish their intensity and danger. Some go to the island of Cuba for the same purpose.

According to the tables of mortality at New York, during five years, from 1804 to 1808, about a fifth of the deaths was caused by consumption. If we add to this number, says Professor Mittchill [Mitchel?], the deaths occasioned by other diseases of the lungs, the sum will be rather more than a quarter of all the deaths*.

At Portsmouth, which lies more to the north, the mortality caused by diseases of the lungs in 1807 was also rather more than a quarter.† At Philadelphia, from 1807 to 1828 inclusively, the proportion of deaths from consumption was about 1 to 6½ of the total number, exclusive of still-born infants.‡

Dr. David Husack [Hosack]? calculates that in the United States the disease augments the sum total of deaths by a sixth, at least.§

According to Dr. Johnson, at Charleston, in South Carolina, the number of deaths caused by consumption and debility is a little less than a sixth, on the average: and he remarks that many of these deaths occur among patients who come from the northern States to enjoy the mildness of the climate during the winter. "Although our changes of temperature," he says, "are great and sudden, our climate is certainly more favourable to affections of the lungs than that of the eastern and middle States; for even at New York these diseases supply from a quarter to a third of the mortality."‖

In 1800 the total number of deaths at Charleston was 807, of which 145 were caused by phthisis, and 6 by acute inflammation of the lungs, so that the diseases caused about one death out of five and a-half; and the Board of Health pointed out that the deaths were generally among strangers who came to Charleston for their health¶. From their geographical situation, the countries to the south of Charleston must be still more favoured with respect to the diseases of which we are speaking. Lastly, according to the tables of medical statistics, published by Drs. Niles and Russ, the mortality caused by phthisis at New York, Boston, and Philadelphia, during a series of years, was on the average in the proportion of 1 to 6 and 3-100ths, and the mortality caused by the other diseases of the lungs was in the proportion of 1 to 4 and 83-100ths.**

We see by the facts that I have just set forth, that although phthisis is a very common disease in the United States, it is much less so in the southern states than in the middle, and particularly than in the eastern ones. This clearly shews the influence of climate in the production of this

* New York Med. Repository, vol. 11. p. 33, and vol. 13, p. 335.
† Op. Cit. vol. 9, p. 283, and vol. 11, p. 311.
‡ The North Amer. Med. and Surg. Journal, vol. 7.
§ The Amer. Med. and Phil. Register, vol. 4.
‖ New York Med. Repository, vol. 11. p. 407.
¶ See the 'Southern Patriot' of Jan. 26, 1821.
** Medical Statistics, &c. Table xvi.

fatal malady, which would certainly have much fewer victims if the inhabitants of the country, especially the women, took care to guard against the severity of the seasons, and the sudden and extreme variations of temperature. In the United States one sometimes experiences the four seasons within twenty-four hours, and persons of a feeble constitution and very irritable chest can hardly resist such violent transitions from heat to cold. When I was at New Orleans on Easter Sunday, 1820, I saw Fahrenheit's thermometer sink forty-one or forty-two degrees in twelve or fifteen hours. In April 1821, when at Washington, I witnessed another great depression of temperature in a very short time; and these two rapid changes are not the most striking that have been observed.

If we now pass from North America to the south of Spain, we shall find a much milder and more stable climate. I lived nearly two years running in that country in 1823 and 1824, and I was there for about five months in 1828 and 1829, as a member of the medical commission sent to Gibraltar by the French Government. The information I procured on these two occasions shews that phthisis is not rare in the south of the Spanish peninsula, in spite of the mildness and constancy of the climate; in particular it is very common at Gibraltar. Dr. Hennen says on this point: — "Differences of opinion may arise on the types of fever, but none can exist on the subject of pulmonary affections, which are so frequent in Gibraltar, that they have been styled the 'true endemic' of the rock. The effects of climate in aggravating them were most lamentably evidenced in the year 1817, in the four West India regiments which had recently arrived from the Caribean Islands. Genuine phthisical cases are very frequent, and run rapidly to their inevitably fatal termination; but it is a very curious fact, that on the opposite coast of Barbary they are almost unknown*."

The information I procured, and the observations I made during my stay at Gibraltar, agree with what Dr. Hennen here says on the frequency of phthisis in that place. You can also see the number of phthisical cases treated in the Civil Hospital at Gibraltar, from its foundation in 1815, to the 20th of December, 1825, inclusively, in the first of the four tables at the end of a pamphlet which I subjoin to my letter. In the fourth table you will also see the number of phthisical patients treated out of the hospital during the same length of time, by the physicians and surgeons of the institution. Moreover, you will find in Dr. Hennen's work, which I also annex to my letter, ample details on the frequency of phthisis in Malta and the Ionian Islands.

I have no other statistical datum on the frequency of phthisis in the south of Spain, but I know that the disease is common enough there, and that it is thought contagious—an opinion which gives rise to measures very fatal to the patients. It often happens that when a patient is at the point of death, all the furniture of value is removed from his room, that it may not be burnt after his decease. Just imagine the effect of such a custom upon the unfortunate patient!

Such is the information with which I am able to furnish you on the influence of climates upon the production and course of phthisis: I regret that it is not more precise and decided, but I can assure you that I am convinced, from all the facts which have come to my knowledge, that the climate of the south of Europe is far from being so favourable to the consumptive as is generally supposed. I agree in this with Drs. Clark and Hennen.

I remain, &c.

CHERVIN, M.D.*

Paris, Dec. 5, 1839.

* Sketches of the Medical Topography of the Mediterranean, &c. p. 119.

ROYAL MEDICAL AND CHURURGICAL SOCIETY.

Tuesday, January 14, 1840.

THE PRESIDENT IN THE CHAIR.

Contributions to the Pathology of New born Infants. By THOMAS H. BURGESS, M.D.

APOPLEXY and asphyxia in new-born infants require such speedy and opposite treatment, that their diagnosis is extremely important. Dr. Burgess undertakes in this paper to illustrate apoplexy, intending on some future occasion to pursue the subject by observations on asphyxia. He details a case of birth in which there was some, but not unusual, delay, which would ordinarily lead to little fear of injury from mechanical causes.

The child cried loudly after the birth of the head, and again after the expulsion of the body; some mucoritus was discharged from the mouth; some food was taken; but within the first hour the hands were observed to be of a mottled, slaty colour. Dr. Burgess, when sent for, found the child of a blue colour all over, except the nose, which was pale and cold. The infant moaned feebly; the mouth was drawn aside; the fingers were clenched; and after

* Gazette des Médecins-Praticiens, Dec. 15, 1839.

a little blood had flowed from the left nostril, the child died.

Serous and bloody effusions were discovered within the skull and under the scalp, which the author minutely details.

A large quantity of serum was also effused into the pleural cavities of the chest.

After noticing the opinions of various writers, the author is inclined to think, that in this case the most probable cause of death was one suggested by M. Cruveilhier, that the uterine contractions exercised a fatal compression on the umbilical cord contained within the womb.

After recounting the morbid appearances commonly observed in similar cases, Dr. Burgess says, "none of these authors have noticed the sanguineous effusion *beneath* the arachnoid, and the engorgement of the choroid plexis, both of which conditions obtained in this instance."

The remedy, according to all authors, is blood-letting from the cord, which is directly opposed to the treatment required in asphyxia. The characteristic mark of infantine apoplexy is, according to M. Gardien, and the author of this paper, the livid hue of the body; while in asphyxia, the infant comes into the world, as Baudelocque says, "exsanguine."

OBSERVATIONS

ON THE

EFFECTS AND MODE OF APPLICATION OF REMEDIES.

By Jonathan Osborne, M.D.
Physician to Sir Patrick Dun's and Mercer's Hospitals, &c.

Hemlock.—Even the extract, imperfect as it is, has an effect in appeasing the pain in cancerous affections of the uterus, and that without exerting sensible narcotic powers, which almost excuses Stoerk for the error into which he fell in proclaiming it as a cure for cancer. I have applied it externally, and given it in such cases sometimes without effect, but sometimes with remarkable alleviation of pain after opium had failed; and never observed any ill effects, except in one case of a woman labouring under scirrhus uteri, who obtained great relief from pain by it, but when the dose was increased to four grains three times daily, had headache, black motes in vision on sitting up, and saw two persons instead of one; all which disappeared when the remedy was discontinued.

The uncertainty of the extract may be shewn by an easy experiment. The conine, which, in the process of decomposition, is partly resolved into ammonia, is in this preparation always (according to Professor Geiger) more or less deficient, and often entirely absent; and to prove that this decomposition has taken place, it is only necessary to add some water of caustic potash, when the ammonia may be distinguished by the odour, and by the holding over it a rod dipped in muriatic acid, whereupon the fumes formed by the muriate of ammonia are rendered visible. This experiment has shewn ammonia in every specimen of the extract in which I tried it.

Wishing to secure the fresh plant in a state of preservation for winter use, I resorted to a plan which I believe will be found applicable to the preservation of plants generally for medical purposes. I caused the leaves and smaller stalks, fresh gathered before flowering, to be pounded up and intimately mixed with an equal weight of treacle. This mixture, of the consistence usual in an electuary, continued for several months until used, without showing the slightest tendency to decompose or to change any of its sensible qualities. This can only be ascribed to the treacle*, and I suggest this as a very useful mode of preserving as well as of exhiting those vegetable productions, the efficacy of which depends upon their freshness. I gave this preparation to six-grain doses to several patients, in whom I thought it might prove serviceable, but its effects was quite different from what I had anticipated. In every instance it acted as a purgative, producing full dejections, without either nausea, tormina, or narcotic symptoms. There is nothing in this fact inconsistent with the opinion of those who maintain that the poison which Socrates took was the juice of hemlock. Unless the narcotism from a large dose was so overpowering as to stop the ordinary susceptibilities of the intestines, a very different result might be expected from that described to have taken place before his death; but it appears from Theophrastus, that the Athenians usually mixed the juice of poppy with the hemlock intended to poison criminals, which suffices to explain not only the easy mode of death, but also the absence of purging in that particular instance.

Another consideration with regard to this important plant, is the great difference of its effects when gathered in different climates. Morris found the extract prepared in Portugal much more efficacious than that of Vienna; and according

* I had an opportunity of seeing an open vessel of treacle which was known to have lain exposed to the air in a store-room for years, but which was the same in quantity and quality as when placed there. It neither formed crystals, admitted the growth of cryptogamous vegetables, nor evaporated. Early this summer, I placed a vessel of treacle exposed to the air; it now, November 26th, remains exactly as I left it.

to M. Larrey, the best hemlock in France is that collected in the southern provinces. It has even been observed that when growing in southern aspects it has more activity than elsewhere.

We cannot expect that in regard to the place of growth, uniformity will ever be attained, but in regard to the part of the plant to be used, it is manifestly of great importance that a proper selection should be made. I think that, for external use, the entire plant, preserved in the way I have mentioned, would answer well, being both cheap and convenient; but that for internal use the seeds should be preferred; 1st, on account of their uniformity. Let it be remembered that seeds are, of all parts of plants, the least liable to variations in their mode of growth, structure, and chemical composition, and that they are the least dependent on artificial modes of drying for their future preservation, seeing that that process is performed by nature herself on fixed and unform principles; and on this head I cannot do better than refer to the seeds of colchicum, which have enabled us to act with that plant, as previously, when the root alone was employed, might have been attended with danger. 2dly, Because the seeds of hemlock contain more of its active principle than any other part. For this I refer to the experiments of Professor Geiger, who found that six pounds of the fresh seeds contained about an ounce of conine, while a hundred pounds of the plant only afforded a drachm. I regret that the unfavourable state of the last season prevented a collection of the seeds, in a sufficient quantity to enable me to experiment adequately on them, but I think enough has been said to shew that the tincture of the seeds would be as great an improvement for hemlock as it has been for colchicum*.

MR. NASMYTH ON THE TEETH.

We are requsted by Mr. Nasmyth to state, that the Report of his paper on the structure of the teeth, read at the meeting of the British Association in August last, and published in the Literary Gazette of September 21, from which we drew the materials for an article inserted in this Journal on the 3d of the present month, errs in attributing to Mr. Nasmyth, instead of to Mr. Schwann, a recent German writer, the comments on Purkinje and Raschkaw, given at the conclusion in the summary of foreign authorities on the subject; and also the comparison between the ossification of cartilage and the formation of dental bone.

* From the Dublin Journal of Medical Sciences.

ST. GEORGE'S HOSPITAL.

Sir Benjamin Brodie, after many years of most active and valuable service, has resigned the office of Surgeon to St. George's Hospital. We are glad to learn that his lectures to the pupils of the establishment are to be continued in the same manner as heretofore.

MR. COPLAND HUTCHISON.

We regret very much to announce the death of this gentleman, which recently took place at Plymouth. Mr. Hutchison was the author of a work on Surgery of considerable value, as well as of various papers in the Medico Chirurgical Transactions, and in the pages of this journal.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Jan. 9, 1840.

Thomas Galloway.—Edmund Pearse.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Jan.* 14, 1840.

Abscess	1	Fever	12
Age and Debility	36	Fever, Scarlet	13
Apoplexy	4	Heart, diseased	1
Asthma	14	Hooping Cough	2
Cancer	1	Inflammation	19
Childbirth	1	Bowels & Stomach	8
Consumption	47	Brain	5
Constipation of the Bowels	2	Lungs and Pleura	9
Convulsions	24	Measles	3
Croup	1	Mortification	2
Dentition	4	Paralysis	7
Dropsy	9	Small-pox	2
Dropsy in the Brain	5	Thrush	1
Dropsy in the Chest	1	Unknown Causes	67
Epilepsy	1	Casualties	10

Increase of Burials, as compared with the preceding week . . . 144

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ *W. of Greenwich.*

Jan.	Thermometer.		Barometer.	
Thursday . 2	from 51	to 41	29·61	to 29 82
Friday . . 3	35	47	29·86	29·88
Saturday . 4	35	41	29 86	29·81
Sunday . . 5	41	30	29·77	29·81
Monday . . 6	25	35	29 84	30·08
Tuesday . . 7	27	19	30·14	30·11
Wednesday 8	12	30	30·05	30·06

Prevailing wind, N.E.

Except the 5th and 7th, generally cloudy. Rain fell on the 2d and two following days, and a little fell on the morning of the 6th.

Rain fallen, ·2875 of an inch.

Charles Henry Adams.

Errata.—In Mr. Clark's paper, in our last, page 595, col. 1, line 8, *for* "similar" *read* "milder." Same col. line 16, *for* "efforts" *read* "effects," and same page, col. 2, line 8, *for* "symptom" *read* "system."

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, JANUARY 24, 1840.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.

Surgeon to the St. Marylebone Infirmary.

CANCER—*continued.*

Treatment continued — Cauterization — Excision.

Melanosis. — *Nature — Varieties—Fluid—Structure?— Formation—Symptoms—Diagnosis—Prognosis—Causes—Treatment.*

Wounds.—*General Principles—Varieties.* — Punctured: *Peculiarities — Prognosis — Treatment.* — Incised: *Peculiarities — Treatment.*

Cauterization. — Many different modes have been employed in the use of cauterization; we may use the actual cautery or different forms of caustic—such as chloride of antimony, nitrate of silver, arsenic, caustic potash, nitrate of mercury, chloride of zinc, creosote. I think they are only applicable to cases where the disease affects the skin or mucous tissues alone; where the morbid structure, at its base, is not thick, and where two or three applications of the caustic are sufficient to destroy it entirely: they may sometimes repress vegetations, and determine upon the scirrhous base the formation of cicatrices. But these "cures" are only temporary; the ulcer will commonly re-appear at the point where it was before seated. When more than one application of caustic is necessary, there is always danger that the irritation will give the tumor unwonted activity; therefore is it that it has been found most successful in those of the face: in the breast, or other gland, it should rarely be used, except in those cases where some portions remain after excision. Where caustics are admissible, many persons believe them preferable to the knife; it is said that relapses are less frequent after them. I object to the red-hot iron, because, if the surface be an irregular one, it cannot be applied to all parts of it, and because it too soon forms an eschar, by which its action is limited.

Excision.—The removal of cancer by a cutting instrument may be done by extirpating the cancerous mass alone, or by removing a limb upon which it is seated; and it is, no doubt, of all means the most efficacious. If it be judged necessary, it may be well that it should be preceded by leechings: the surrounding tumefaction is thus reduced, and the extent of the tumor more exactly defined; but although the operation affords more chance of cure than any other, it is not easy to think that it justifies excision of the uterus, the rectum, &c. All operations are principally recommended from a belief of the occasional curability of the disease. A large number of persons regard it as incurable; and, to be consistent, the patient should be generally abandoned to the suffering of a horrible disease, and to inevitable death. It is, however, important, neither to deceive ourselves nor others with the results of operations. A case apparently the most simple, small and circumscribed, completely removed locally, may rapidly re-appear; whilst a very unpromising case sometimes does well. It is our duty to bring to bear all the resources of art, not to shrink from any difficulty, in attempting to rescue the patient from impending death; but we should hold out few hopes, nor encourage many fears, as to the results of such operations which we feel bound to undertake. In what cases, it may be asked, are we justified in operating—what in refusing? We shall be justified in hesitating, from the small prospect of success,

when the tumor is large—when the neighbouring glands are tumefied, the surface ulcerated, and the constitution bears evident marks of suffering: but any of these circumstances taken singly may not be enough. The fundamental principle by which the surgeon should be guided is the possibility of removing all the morbid structure. We may not succeed even when this is accomplished; we cannot, if it be not.

When no operation can with propriety be performed, we must seek to palliate suffering. The first element is diet; which should be rather vegetable than animal, and as little stimulating as possible. The bowels should be attended to, the patient should be warmly clad, and kept as free as possible from mental or bodily excitement. Pain may be lessened by opium and cicuta internally, by opiates and belladonna externally. The surface of an ulcer may be cleansed and purified by the chlorides, by decoction of bark, tincture of myrrh, alum, acetic or hydrochloric acid, charcoal, or carot, or yeast cataplasm. Hæmorrhages, which sometimes quiet pain, should be restrained if abundant. Pressure is sometimes enough for the purpose, but the red hot iron is sometimes necessary.

MELANOSIS.

After Laennec, we understand, by melanosis, a pathological production deposited upon the surface or in the substance of our organs, of a darkish or blackish colour, having no analogy with the healthy tissues of the body. How long this affection has been known, it is not very important for us to inquire: whether those passages in the works of Hippocrates, referred to by Bartholin and Lorry, can be admitted as indications that he knew the disease, is immaterial. I take it there can be no doubt that the case published by Highmore, in 1651, was melanosis. The disease which was described by Brugnoni, in 1781, which was hereditarily transmitted among the white horses of Chevasso, and which he termed hemorrhoids, was evidently melanosis; it was usually devoloped around the root of the tail and the anus. Some years later (in 1784), the same disease was observed at Bresse. Gollety-Latournelle transmitted an account of it, in 1809: he says, "there supervened in a young stallion, on the second year of his covering, black 'boutons," or buds, around the anus; they soon extended to the scrotum and sheath; they were placed between the skin and muscles, at first as large as a small nut; they increased until they attained the size of a pullet's egg; they did not suppurate, and were insensible to the touch. In a short time, all the cellular tissue was similarly affected, and the animal died. When cut into, a matter like the grease of a cart-wheel flowed out. All the progeny of this stallion which had the same colour, were similarly affected; those which were black, bay, roan, or iron-grey, escaped. In 1806, Laennec communicated to the faculty the result of his observations on the same subject. The subject was further elucidated by Breschet, in 1821; by Noack, in 1827; by Frousseau and Leblanc, in 1828; and by Carswell, in 1834; but much still remains to be done for it.

Varieties.—Laennec admitted two successive states in this disease; that of "crudity," and that of softening. In the first, it is a black, opaque, homogeneous mass, of the consistency of lymphatic glands; in the second, pressure causes the exudation of a darkish-red fluid, having very small blackish particles mixed with it; and when this softening is complete, it is converted into a black semi-fluid mass, not unlike China ink, or the fluid of the cuttle-fish. It may occur in masses, surrounded or not by a cyst; may infiltrate an organ—may be deposited on surfaces—may be fluid, effused into cavities. When in masses, the tumor is variable in size; from that of a rape-seed to that of a hen's egg. Gohier saw one on a horse weighing thirty-six pounds: this might have been formed by the aggregation of many smaller ones. It is said that some of these tumors enlarge greatly if the patient be placed in a bath. The colour of these masses appears, in many cases, to vary with the period of its development: at an early period they are of a reddish brown; they become darker, violet, very dark indigo, and sooty. The skin covering these tumors at first retains its natural thickness, but is gradually thinned, until only the epidermis remains, which, after a time, becomes dry, rugous, horny. With respect to the existence of a cyst at all, many doubts are entertained; some persons arguing that what is described as a cyst is merely a condensation of the surrounding cellular tissue. This membrane, whether it be called a cyst or not, is, according to Breschet, together with the processes it sends into different parts of the tumor, the only organized part which he has observed; he could discover no vessel—no nerve; his injections were also arrested in this membrane, and did not penetrate into the black matter; but he has sometimes seen the injection extravasated with the black matter in the cells. The matter which constitutes these tumors when they are not infiltrations, varies much in consistency, from that of pitch to that of tar. If we rub it on linen or paper, in some cases, the tint is so like bistre that it may be used instead of it. Breschet says this matter is inodorous and almost tasteless.

Noack, Gobier, Gasparin, and Flandrin, state that the odour is very sickly and disagreeable: this is my own observation; but I have only examined it on the dead body, and decomposition may have had something to do with it. Breschet says it is soluble in water and alcohol; exposed to the air, it putrefies very slowly. This is owing, Noack thinks, to the quantity of carbon it contains. The whole or part of an organ may be infiltrated with melanotic matter, which then fills up the cells or interstices of the tissue, but it is pretty certain that many cases termed melanomia are chronic phlegmasia. Indeed infiltrated melanosis is very rare even in those cases where the disposition to produce the disease is very decided. It is occasionally found deposited upon certain surfaces, the peritoneum for instance, but oftener it will be found in the subserous tissue. When the black matter is not too concrete, the surrounding blood-vessels seem filled with it. Breschet thought it was situated in the arteries; Noaek thought it was especially found in the veins.

With respect to this melanotic fluid, some persons seem inclined to believe that the black matter thrown up from the stomach in certain cases of acute or chronic inflammation of that organ was sometimes melanotic matter; it seems to me more probable that it was effused blood acted upon by the gastric fluid. Prout attributes to melanic acid the colour of urine in some cases where he has seen it of a deep black. The fluid is composed, after Jaequet, of water, carbon, iron, and phosphate of lime. Thenard believed it to be essentially formed of carbon; Laissaigné coloured fibrine, black colouring matter soluble in dilute sulphuric acid, and in a solution of subcarbonate of soda.(which reddens it) a little albumen, chloride of sodium, subcarbonate of soda, phosphate of lime, and oxide of iron; in fact, with the exception of the black colouring matter, not unlike the composition of the blood clot. Foy's analysis is as follows:—

Albumen	15·00
Sub-phosphate of lime	8·75
Water	18·75
Fibrine	6·25
Hydro-chlorate of potash	5·00
—— of soda	3·75
Carbonate of soda	2·50
—— of lime	3·75
—— of magnesia	1·75
Oxide of iron	1·75
Tartrate of soda	4·75
A principle, eminently carbonized, probably altered cruor	31·40
	100·00

The analysis therefore shews the absence of fatty matter which is found in encephaloid productions, and exhibits a large proportion of all the materials of the blood.

Structure.—Much doubt still exists with regard to the nature of this product, and even whether it be a tissue. Laennec believed it to be an accidental tissue. If we examine melanosis in masses, no tissue-like appearance can be seen. Breschet could find no vessel, no nerve, no fibre, in these masses; he could not therefore agree with Laennec, Meckel, and others, in regarding it as a particular species of cancer, though he would probably admit that a cancerous mass might be infiltrated with melanotic fluid. I cannot subscribe to this opinion, though it be true that the black matter has been found in tissues disorganized to the last degree—though it has been observed in carcinoma of the eye. In all these cases there is, I suppose, only an accidental deposit of black matter in an accidental product. If this matter constituted one of the characters of cancer, we should regard as cancerous all parts where it is found deposited. Now what analogy is there between cancer and those black spots which we see on the peritoneum, the pleura, and the pericardium? Some persons regard it as a disease of the cellular tissue: no doubt melanotic matter is very commonly deposited in it. Many persons are of opinion that the black principle is an aberration of the pigment destined by nature to be deposited elsewhere, as the rete mucosum, the choroid, the hair; it is said that persons with light hair, and elderly persons whose hair no longer obtains the same quantity of colouring matter as it did in youth, as well as light grey or white horses, are most commonly the subjects of the disease; at the same time it must be admitted that it is by no means a universal rule. Behier has seen melanotic matter in a nævus tumor; in this case tumors existed over the greater part of the surface, and the interior of the body, and the inclination on his mind was, that they were originally extravasations of blood, as in purpura; that they afterwards underwent particular changes; they were redder as they were more recent. Biett mentions another case in which an irritated nævus became the seat of similar deposition, which afterwards occurred in different parts of the body. I believe that this matter is the colouring and fibrinous portions of the blood in a particular state of alteration. Breschet pointed out its analogy with the choroid matter, that of the uvea, the placenta of some carnivora, the rete mucosum of the negro. He and Noack believe that the disease is a consequence of the accumulation in the blood of that carbon

which was destined to colour certain tissues and organs. Assuming this as the most probable explanation of the formation of these tumors, it may be further assumed, that melanosis in masses is produced by the effusion of blood into the cellular tissues. Melanosis may affect most of our tissues and organs, the skin, the cellular system, the vessels, the lymphatic glands; Lobstein thought that the nerves were more surrounded than penetrated by it. Among the parenchymatous tissues, Fawdington, Halliday, Cullen, and Carswell, have seen it affect the heart: the lungs, the liver, the pancreas, and the ovaries, are the most frequently affected. I am not aware of any case in which it has been deposited in the synovial membranes or articular cartilages. Halliday and Fawdington saw it affect many bones, Lobstein and Lauth have also seen examples: in a dead body dissected in this school last year it was found to affect many bones. The observations of Breschet and Cruveilhier, confirmed by those of Louth, seem to prove that this black matter had been found in blood vessels which had not been broken down. Treviranus, in some experiments on frogs, in which he interrupted the circulation in various ways, saw black star-like points formed on the surface of many organs. Examined with a lens, these spots were found similar to the choroid pigment. In fact, it is most probable that melanosis is formed by the blood which has undergone a certain change; that the blood is even changed in the vessels themselves; that it is deposited in the tissue of organs by a kind of secretion analogous to that of the choroid and the black matter in the skin of the negro; from whence I conclude that it is not a sui generic pathological production, but a simple black deposit or colouring, sometimes of a healthy, sometimes of a diseased tissue, and sometimes of a tissue accidentally developed, such as a cancerous mass, and, therefore, that Laennec was in error in regarding it as a particular tissue.

Symptoms.—It seems questionable whether melanosis determines any special symptoms. Laennec believed it capable of gradually diminishing the vital powers, by altering the nutrition in parts of the body where it is deposited. Noack believes that in infiltrated melanosis the symptoms should be referred rather to the disease which has excited the infiltration. Still there are cases in which melanosis is the cause of the phenomena observed when the functions of organs are constrained, either by compression, as in the lung or the brain, or by acting as foreign bodies.

Diagnosis.—In the diagnosis two circumstances only may assist us where the disease is internal—black evacuations, which at last are indecisive, and the existence of melanotic spots, in, or immediately under the skin. When subcutaneous, if sufficiently superficial to shew their colour, the diagnosis cannot be difficult.

Prognosis.—As to the prognosis, what I have said of the symptoms must at once lead to the conclusion that the disease is comparatively harmless, unless it interfere with the functions of organs, and then the gravity must depend upon the importance of the organ. If this interference does occur, the existence of melanosis is often not revealed until after death. Of course the danger is greater as the disposition to produce the disease is more decided, and subcutaneous tumors are usually conclusive evidence of the disposition.

Causes.—As to causes we can say little; reasoning from analogy, I believe that similar causes to those which produce purpura—causes capable of producing a relaxation of the solids and of thinning the fluids, may facilitate the production of this disease—and as to hereditary transmission, if proved in horses, it has never been made out in man.

Treatment.—In the treatment of this disease we have no fixed rules. Noack says that bleeding in summer has diminished the sizes of these tumors, and arrested their development. When few in number extirpation has succeeded. Damoiseau cured a case in this way; but unfortunately extirpation frequently does not prevent relapse, either at the same or another point. Gasparin says he has succeeded in preventing relapse by using sulphurous fumigation after extirpation. But the effects of these means must be further tested before they can be ranked as remedial agents.

WOUNDS.

The violent action of all bodies harder than the tissues of our organs may overcome the resistance of those tissues, and produce a breach of surface or solution of continuity, or wound; for these are synonymous terms. If the solution of continuity affects the bony tissues it is termed a fracture.

Certain effects pretty uniformly accompany wounds, however they may be produced—pain, retraction of the edges, and hemorrhage. The first varies with the quantity of sensibility with which the part is endowed. The second depends on the natural elasticity of the part—its extent being very variable; sometimes being scarcely sensible, at others, when the wound has implicated muscular fibres, being very great, especially when a long muscle is implicated, such as the sartorius, which may contract a third of its length.

In fact, the longer the fibres the greater the retraction, the more numerous the fibres the more powerful the retraction. The third depends upon the section or wound of blood vessels; and as all organs admit a certain number of vessels into their texture, a wound can hardly happen without the shedding of blood.

Union by "first intention."—Left to itself, nature soon sets in motion the action necessary to repair the injury; that action is inflammation. The pain proceeding from the injury is increased by contact of air, and the necessary action is developed. If the wound be small, and the lips not far removed from each other, the inflammation is inconsiderable, serous fluid is effused, it gradually acquires more consistency, assumes the character of coagulable lymph, forms a medium between the lips, becomes organized, and union is complete. This semi-fluid substance may very soon be distinguished upon the surface of a wound, so soon, in fact, as the surfaces are sufficiently inflamed to coagulate the serous fluid which is at first effused. Between serous surfaces it has been seen in four hours, after twenty-four hours it is white and areolar, after forty-eight hours it is pervaded by blood canals, and by the sixth or seventh day it is completely organized. If the parts have been exactly brought together this bond of union or cicatrix is linear, fibro-cellular; its colour after a time is whiter, and its power of resistance greater than that of the adjoining tissues. In this way a ruptured continuity is restored, vessels pass through the cicatrix, though now and then difficulty is experienced in demonstrating them. Hunter, Wolf, and others, have shewn that the vessels in a cicatrix are not simple extensions from the divided surfaces, but newly formed vessels which inosculate with the old ones. Many cases might be referred to in proof that nervous reparation also happens. Some years ago a young woman had neuralgia near the point of the little finger; many means were tried and failed; at last her medical attendant made a circular incision down to the bone; the neuralgia was dissipated, but by the end of two months it began again to be felt, and in six months it had acquired nearly its former intensity. Union so acquired was called by Hunter "union by first intention." To afford the greatest probability of such union it is necessary, or at least advisable, that both surfaces should be living. I say advisable, because the chances of success are greater; I believe it is unquestionable that parts entirely separated from the body will occasionally unite, but then they must be small parts, such as fingers. Again, a wound should not have been very long exposed, otherwise suppurative action may be established, and all chance of immediate union is dissipated.

Baronio completely detached from each side of the loins of a sheep a flap three inches by two; he substituted one for the other, and at the end of eleven days found both united; another time he allowed eighteen minutes, and another an hour, to elapse, before they were applied, but the results were the same. Wiseman made similar experiments with similar results. Hunter transplanted the testicles of a cock, as well as the spur and the teeth of other animals, and they became equally adherent. For many years such things were not believed, but the examples are now too numerous and too well authenticated to admit of doubt: observations of ends of fingers separated and completely united have been recorded by Heister, Flurant, Piedagnel, Sommé, Busley, Balfour, Wigord, Houston, Bonn, and others; in one case the part had been detached an hour and a half. Examples of a similar kind implicating the nose are detailed by Garengeot, Blegny, Fioravente, Molinelli, Leyseri, Loubet, Perey, Carlizzy. Portions of the ear by Laurent, Magnan. Burdach speaks of a case in which Lenhossek saw the ungual phalanx unite, Schopper saw two phalanges, Braun an entire finger, and adds that Marley and Lario had seen similar cases.

The precept which arises out of these cases is, that when the end of a finger, a nose, or an ear, is completely detached, if it be not much contused, if not more than three or four hours have elapsed since the accident, union should be attempted. In many cases it may be expected to fail, in a very few it may succeed. You must also bear in mind, that up to the present time these results have occurred only where very small portions of the body have been detached.

It is better also that there should be a similarity between the surfaces; but this is not indispensable: for instance, in excising a tumor, we remove a certain quantity of tissues, and similar parts do not come in contact, yet they heal by "first intention." The lips of the wound should not be severely contused, or suppurative action will most likely set in. Foreign bodies, such as a splinter, a ligature, a piece of linen, or any similar substance, will prevent immediate union, by setting up suppuration. A coagulum of blood, if thin, interposed between the lips of a wound, does not seem to constitute an obstacle to immediate union; Hunter, indeed, thought that "being endowed with life," it did not irritate; that the colouring and serous portions being removed, the coagulable lymph remained, was organized, and constituted

the cicatrix," but in many cases it is hurtful. The general health and age of the patient, the period of the year, and a separation of the lips of the wound, may have material influence in producing or opposing union by first intention. With respect to temperature, Larrey, when in Egypt, was much struck with the rapidity with which wounds healed. Guyon and Breschet have been engaged at the Hotel Dieu in making experiments on this subject, which strengthen this belief, and it is, I think, certain that wounds heal more rapidly under warm water dressings than under ordinary treatment.

Union by granulations.—Want of proper contact, loss of substance, disorganizing contusion, and the presence of a foreign substance, may prevent union by first intention, may excite suppurative action. In this case, when the hemorrhage is suspended for a certain time, as before, a serous exhalation continues, inflammation becomes more intense, too intense for serous exhalation; it is therefore suspended; the surface becomes comparatively dry, the lips are tumid, dry, and painful; by the third or fourth day, varying however with the vascularity of the tissue, the surface again becomes moist; a reddish fluid is effused, and a concrete or coagulated fluid soon covers it; small red elevations (granulations) become apparent, and upon their surface a creamy fluid-pus may be observed. As soon as this fluid is formed the inflammatory action subsides, the tumefaction of the edges is much lessened. Whether immediately before or immediately after (for it is a debated position) the secretion of pus, those granulations are covered by a membrane which affords their delicate tissue a certain protection against external violence; this tissue was called by Delpech the pyogenic tissue or membrane, and the term is now generally used. The granulations increase in number and in consistency; they, or the membrane which covers them, are endowed with considerable retractile powers, by which the surface of a wound is much lessened. These bodies may become too luxuriant, may sprout above the surrounding surface, but unless they rise very high, a pellicle spreads over and represses them. This covering is at first very thin and red, but gradually becomes very resistant, and losing its vascularity, becomes white. The duration of this process is of course very variable.

Symptoms—These processes cannot take place in the economy without developing certain general or constitutional symptoms; they are less decided, as might be expected, in wounds which heal by first intention than in those which suppurate. In each case they must necessarily vary with the extent of the wound, and the excitability of the patient. When the wound is disposed to heal rapidly, or is not large, the general excitement is very inconsiderable; but if the local disturbance be great, there is restlessness, heat of skin, and quick pulse. When adhesion commences these symptoms rapidly subside: in all this, however, there must be great variety. If suppurative action set in, the general symptoms are better marked—this action is not developed without some febrile disturbance, which is declared on the second or third day; rigors are first observed; the skin is hot and clammy, the pulse quick, but not hard; the tongue is whitish. In ordinary cases this feverish action subsides after two or three days, the tongue cleans, thirst is abated, the appetite returns, and the disease is only local. If the patient be irritable and the wound large the symptoms may be more serious, the feverish excitement may be more severe; there may be delirium, convulsions, spasms; these may be so great as to destroy life before suppurative action is established. If these first dangers be passed, all is not passed. If the wound be large, jagged, irregular, implicating important parts, phlebitis or other serious mischief may happen. The irritation of the wound may be so great, or the suppuration so abundant, that the system may give way under it.

Forms of Wounds—A wound may be produced by many different agents; and these agents give peculiar characters to it. The agent may be a puncturing, incising, contusing, or lacerating instrument; it may be caused by projectiles from fire arms, by rabid or venomous animals, or it may be complicated by the insertion of peccant matter in the wound.

Punctured Wounds.—In a punctured wound only a very small extent of parts is divided, and those only corresponding to the point of the instrument; the rest are pushed aside, distended. Usually the disturbance is not great, and the wound is soon cicatrised. But it is not always so; I have known an acupuncture-needle introduced into the muscles of the calf of the leg, followed by violent inflammation and abcess. It is rare, however, that a puncture is made under such advantageous circumstances as that in acupuncturation; the blow is often sudden and violent, the instrument is not always sharp-pointed. The orifice of such a wound is usually narrowest, narrower indeed than the instruments by which it is inflicted. You must not always expect that the orifice will have the form of the instruments which have made it: this is an important circumstance for you to bear in mind in giving evidence. If, in a dead body, a puncturing instrument, with cutting edges,

be made to penetrate perpendicularly to the surface, the teguments being equally tense on all sides, the wound will fairly represent the form of the instrument; but if the same instrument penetrate obliquely, or if the teguments be not equally tense on all sides, the form of the wound will no longer represent that of the instrument. If the instrument be merely pointed, and not cutting, it is usually impossible from the form of the wound to judge of the shape of the instrument: even though the instrument be exactly rounded, and be plunged perpendicularly to the surface of the integuments, the wound may be oval or angular. Indeed, the same instrument plunged into the body in half a dozen different places, may produce wounds of as many different forms. If the punctured wound be large, it has this peculiarity; the symptoms are sometimes very serious, and apparently out of proportion with the extent of the wound. This is probably because the nervous filaments are not fairly cut through, but torn apart. What gives colour to this belief is, that the painful effects of such injuries are often suddenly lessened by making the puncture an incision. Supposing this to be a fact, it is only to be explained in one of four ways; either the incision has laid open a purulent collection, or it causes the evacuation of extravasated matter, or completes the section of partially divided nervous filaments, or relieves strangulation, by cutting through fascia or aponeurosis. We know that the symptoms are similar to those resulting from puncture of nervous cords, and we know further that the complete section of the injured nerve often relieves the suffering. In this kind of wound the hæmorrhage is usually not great, except in a few cases where a large vessel is implicated. Almost always the tumefaction is greater than that which occurs in incised wounds. One important peculiarity belongs to them, it is the rapid diminution of the size of the wound; therefore it is unsafe to judge of the depth to which the instrument has penetrated by comparing it with the extent of the wound. For instance, if at half-an-inch from its point, the instrument is five lines wide, the wound measuring only three, you are not therefore to assume that the instrument has not penetrated to the extent of an inch or more. The consequences of a punctured wound may be very serious: it may penetrate into a cavity, it may wound an artery. But punctured wounds are most grave when a tissue is much intersected, like the palm of the hand and sole of the foot; inflammatory action is then often intense: they may also excite tetanus. I recollect a case of tetanus treated by M. Gaultier de Claubry, succeeding to a sting of a wasp in the sole of the foot, and another is mentioned where the patient trod on a needle. Sometimes the inflammation seems to be excited by strangulation, which may even proceed to gangrene.

Prognosis.—The prognosis of punctured wounds is generally more serious than of incised wounds. In incised wounds we less frequently see those accidents to which we have just referred. In cases of punctured wound of the scalp, erysipelas not unfrequently follows. When we know the accidents which may follow these wounds, we may anticipate them. If the wound be severe, and bleeds but little, we should endeavour to facilitate further bleeding: for instance, if the finger be punctured, by pressure and immersion in warm water we may often unload the vessels, and get rid of irritating substances.

Treatment.—The treatment to be employed in punctured wounds does not differ very much from that of incised wounds—cold local applications, careful dieting, and saline aperients. If the wound be a sword or other similar puncture, affecting the chest, although we believe it has not penetrated, it is necessary to bleed; if a similar wound penetrate a limb, again it is necessary to bleed; the quantity of blood to be regulated by the severity of the injury and the strength of the patient. If it be probable that a splanchnic cavity is penetrated, the bleeding must be large, and repeated upon the least appearance of re-action. As much as possible the patient should be placed in an inclined position, to admit of the drawing-off of any fluid which the wound may contain. In these cases inflammation is sometimes developed in the wound, sometimes in the course of the lymphatics: these should be boldly treated by leeches; and it is a matter of great importance to place the part in such a position that the return of venous blood may be facilitated. In the limbs the part should be placed on a plane higher than the trunk. In cases where we cannot give the part a position which will facilitate the escape of pus, counter-openings are sometimes necessary. I must here urge you to be very careful in making counter-openings; though, apparently, a simple operation, it requires an accurate knowledge of anatomy. In such a case, so able an anatomist as Boyer once opened the profunda. Be very cautious, therefore, when it is necessary to make the opening near an artery. Sometimes it will happen that though fluctuation was very evident, no pus follows the opening; you must then introduce a tent, place warm water dressing over it, and very likely in a day or two the pus will flow through the opening. If a foreign substance be contained in the wound, it

should be extracted, if superficial or easily removed; if not, if the foreign body be not likely to excite irritation, it may be left until suppuration has loosened it. In some cases, suction is useful in withdrawing blood or other substance; but, instead of suction, with all its mummeries, we employ, in the present day, cupping-glasses. If used, it must be done prudently, lest by removing clots they occasion hæmorrhage. La Motte and John Bell were strong advocates for their employment.

Incised Wounds.—A fair incised wound is made by an instrument capable of cutting through our tissues without contusing them. Such a wound must be very variable; it may be a simple incision without loss of substance, or the instrument may cut out a portion of our tissues, and of such an extent as to prevent the sides from being brought together; this happens sometimes when a flap is taken from the forehead to make a new nose. The part may not be completely cut away, but may be attached by a pedicle; that pedicle may be large enough to maintain vitality in the flap, or it may not; in the latter case, it may be gangrened. The wound may implicate the skin, cellular tissue, and muscular fascia—it may extend to the muscles. It may be parallel to the muscular fibres; then there is little gaping of the wound: it may be oblique or perpendicular to the course of the fibres, and the sides of the wound may be then much retracted. It may implicate important blood-vessels, and there may be considerable hæmorrhage. Sometimes considerable vessels are cut through without hæmorrhage—in certain amputations, in extirpation of the breast, there is occasionally spontaneous cessation of hæmorrhage. This circumstance is owing, I apprehend, to a moral impression, to pain, to a general spasmodic contraction; perhaps, to some extent, to the contraction of the newly incised tissues upon the vessels. In a few hours this state is dissipated, and hæmorrhage will occur: therefore, in such cases be upon your guard. The instrument may cut through nervous cords, and the parts to which these nerves proceed may lose sensation and motion. The nerve may be incompletely divided, sensation may remain intact, and motion is not destroyed, but acute pains are felt. It may penetrate to the periosteum, may wound it: sometimes this is not a serious complication, but caries or necrosis may be a consequence. It may implicate the bony tissues, cutting more or less completely through the bone. These wounds are, therfore, in many cases, complex; varying infinitely in their character and their gravity. Their gravity may be modified by age; they are dangerous generally at the two extremes of life: in children the hæmorrhage is often great; in old age adhesion is with difficulty set up. Incised wounds, whether simple or complicated, occasion certain pretty constant symptoms—*Pain* of variable severity, increased by exposure, lessened when the sides of the wound are brought together. *Hæmorrhage*, which is almost a necessary consequence of all wounds; this may be trifling or it may be considerable; if a tolerably large vessel be not divided it often ceases of itself, becoming more and more serous, until the orifices are blocked up by clots. *Separation of the edges of the wound.* This may depend upon the ordinary elasticity and contractility of tissues, but it may be owing to peculiar situation—supposing a wound of the front of the thigh, cutting through the extensor muscles, it is evident that the position which you give the limb will increase or diminish the separation; if you flex the thigh upon the pelvis, you will lessen it; if you extend the thigh, you will increase it.

Almost always, soon after the action of the cutting instruments, the lips of the wound become slightly tumefied. This is a consequence of pain, and without it union would not take place—it is therefore salutary; but it may become so violent as to prevent immediate union, and may determine suppuration. Exempt from complication and left to itself, I have already described the course which nature takes in small wounds; but when larger the separation increases, and suppuration is almost inevitable unless art interfere. Even when the most careful treatment is employed this may happen. However extensive the incision, and however nearly a part may be detached from the body, we must not despair of seeing it united: the point of attachment may be insufficient to support life in the part, but of this you can never be certain, because a part may be completely detached, and yet may unite. We have known a finger hanging by a single tendon, put in contact and united; the nose has adhered only by an extremely fine point, brought into apposition with the part from which it has been cut away, and united. An ear, a finger, a nose, has been completely detached, and afterwards united. These examples, it is true, refer principally to the fingers and toes. Can we, from this evidence, infer that a part cut from the back may afterwards unite? It is possible, but I know no direct evidence in support of it, except that of Baronio, in sheep.

Treatment.—In the treatment of incised wounds, the principles are simple and obvious; if the wound be not complicated by the presence of a foreign body, bring

the edges together, and keep them so; and if any accidents arise, treat them. To accomplish these indications, certain things are necessary, a good position, adhesive straps, bandages, sutures. First, with regard to *position*, you would not place a man on his back who had a wound of the occiput, and, *vice versâ*, if a wound implicated the extensor muscles of the limb, you will place the limb in extension; the ends of the divided muscles will then be brought nearest together. If it implicate the flexor muscles, flexion will manifestly be the position. Supposing you have to treat a wound implicating, transversely, the anterior parietes of the abdomen, you would not place a pillow in the small of the back, but you would raise the pelvis and the chest. If the wound were longitudinal, implicating the fibres of the rectus, an opposite course would be necessary. Again, position is of great importance with reference to the circulation, to the reflux of venous blood. If the leg be wounded, and allowed to hang down, the course of the arterial blood towards the point will be facilitated; that of venous blood from the part will be interrupted by the influence of gravitation. So decided is this influence, that Piorry stated, what I have partially confirmed in one case, that hæmorrhage from the radial or ulnar artery may be arrested by keeping the arm up above the head. We must, however, be careful, that in attempting to get rid of one inconvenience we do not incur another; that, in attempting to facilitate the return of venous blood, we do not prevent the escape of pus.

With regard to *strapping*, that of isinglass I prefer, as being less irritating. Straps act by their adhesion to the integuments; therefore their force is, to a considerable extent, dependent upon the adhesiveness; to a great extent, upon their length: thus a strap two inches long will act with much more force than a strap of one inch. Straps act only on the integuments; therefore, when we wish to act on deeper parts, we must employ some other agent. There are, it is true, certain muscles which may be acted upon by the skin, the platysma, the occipito-frontalis, the orbicularis oris—still the moisture about the lips will loosen the straps, and sutures may also be necessary.

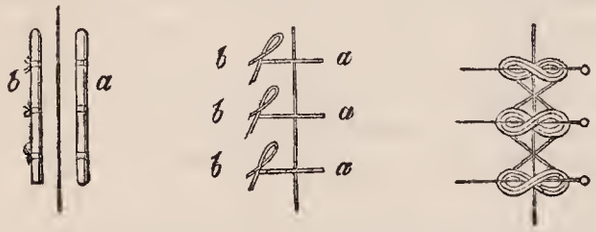
By means of *bandages*, we can, in certain cases, exert more power in bringing parts together than by adhesive straps. They act more decidedly on the deeper seated parts; they are especially convenient in longitudinal wounds. The bandages commonly employed for this purpose are either tail bandages or rollers. It is often necessary to associate compresses with the bandage. Supposing we are dressing a longitudinal wound, affecting the anterior part of the thigh, you would place one compress to increase the support at the inner, and one at the outer side of the wound. But even when well applied, it is seldom that the bandage is perfectly efficacious, that it exactly maintains contact between the edges of the wound; much of its action is lost in compressing the part perpendicularly to the surface. Still it prevents the wound from gaping as much as it might otherwise do. Compresses well applied have this advantage, that they only make pressure at two points of the circumference, and therefore interfere less with the circulation than circular bandages.

Of all the means employed to maintain wounded surfaces in contact, *sutures* are undoubtedly the most efficient. The older surgeons employed them perhaps too frequently. The moderns came to the conclusion in the last century, that so many inconveniences attached to the use of the suture, that it should be very rarely used, and by some it was actually proscribed. Within a few years, a new doctrine has been promulgated, and it is recommended in a large number of cases. Still, differences of opinion exist with regard to it at present. The introduction of two or three needles cannot be done without pain; it is also said that they irritate the muscles, and produce a tendency to spasmodic contraction. A still graver reproach has been made to them, that they break through the tissues, and are thus more hurtful than useful. It is very true that this occasionally happens, but from imprudence, by endeavouring to overcome a resistance which was not likely to yield. Those of you who attend hospital practice have seen their great efficacy in hare-lip, wounds of the face, and abdomen, and elsewhere, when too powerful muscles are not implicated; but if you attempt with threads to bring together large wounds of the deltoid or the muscles of the thigh, you may expect to experience the inconveniences we have spoken of. They will be found useful where a flap exists with its base downwards, and where the flap must be sustained. Such as a sword cut in the deltoid. Here there is no resistance to overcome; all that is required is support. It will be found very useful in wounds occurring in elderly people, who have been very stout, but are no longer so. In them the skin is very flaccid, the surfaces can be easily brought together, but the flap tends to curl up, and union is prevented. Sometimes there are indications for using the suture more pressing than the fear of deformity; the masseter and buccinator muscles are cut through; the parotid duct is implicated; if union does not take place,

fistula will succeed. In wounds of the eyelid, it must often be employed. There are parts which are occasionally divided, and where position, strapping, bandaging, will not succeed—the tongue, for instance; here the suture can alone be used. Again, it is no less necessary in wounds of the abdominal cavity, out of which the viscera may glide, if the wound be large enough to allow of their escape. Still, the use of the suture in large abdominal wounds is sometimes followed by convulsions, vomiting, intense pain, which resist every kind of treatment; therefore they should not be used unless the necessity be absolute. Some men use the suture very generally, because contact is more exactly and more certainly maintained, and the necessity for firm bandaging, from which, in many cases, congestion at the wounded surface results, is done away with.

Sutures are not all of one kind: those at present commonly employed are the interrupted suture, the twisted, and the quill

Fig. 1 Fig. 2. Fig. 3.



suture. The first is made by passing a needle armed with a thread, from without inwards of one lip of the wound, and pressing it from within outwards of the opposite side, and tying a knot on the surface, as in Fig. 2. Where there is not much resistance, this does very well, as in sustaining a flap for instance, in amputations of the breast, the testicle, &c. If the object of the suture be to maintain very exact contact, this suture will not do. In any autoplastic operation, you do not see it employed, but the twisted suture. In the twisted suture (Fig 3), the needles remain; we insert them as much deeper as it is possible the resistance will be greater. Having inserted the needles, having taken care that they have penetrated at exactly opposite points, the lips are brought together by twisting the suture either circularly or in the form of a figure of 8. In this way more exact coaptation is maintained. These needles are left in place for three or four days; at that time union is usually sufficiently advanced to admit of the removal of one or all, according as union may be more advanced at one point than another. If the needles destroy the tissue, it is usually from the inattention of the surgeon: if there be likelihood of its giving way, much may be done by supporting them with straps or bandages. The quill suture is made by passing threads through both lips of the wound as in the interrupted suture, but instead of knotting them upon the surface, we fix them on each side upon a cylinder of bougie or quill, or other convenient substance. The advantages of this kind of suture are, that the drag, instead of being upon several points, which may give way, is spread over a considerable surface, and we may thus employ with impunity a greater force for bringing the parts together; more action is also exercised upon the deeper parts of a wound. The quill suture is therefore the best means of procuring union in a wound, where there is considerable fear of the parts being dragged asunder—certain wounds of the abdomen, lacerations of the perinæum. The use of different sutures may thus be summed up. The interrupted suture does very well where the wound is superficial, where much force is not required, and where very exact adaptation is not important: the twisted suture where exact adaptation is necessary; the quill suture where there is much resistance, where the wound is deep, and where all parts of it should equally be brought together.

LECTURES

ON THE

PATHOLOGY OF MORGAGNI.

By Dr. Mayo.

Being the Lumleian Lectures delivered at the Royal College of Physicians in London, 1840.

Lecture III.

The next case to which I would draw your attention, in this desultory perambulation through the works of Morgagni, is one of enteritis. 'Latius Lælii*, a native of Imola, in the papal territories, a student in medicine, was a lover of solitude, and, by nature, easily irascible. This young man, when he was in good health as usual, without any previous cause, except that he knew his father was at the point of death, and expected every hour the melancholy news of his having expired, was suddenly seized, about the fourth or fifth hour of the night, in the middle of November 1705, with a violent pain in the umbilical region, which sometimes was most troublesome in one part, sometimes in another, but never went beyond some certain space of that same region. The person with whom he lodged being waked by his cries, gave him a dose of the philoninon romanum, according to the advice of some neighbouring physician. This was thrown up by vomiting—for he had already

* Letter 35, art. 2.

begun to vomit a porraceous bile, which afterwards became æruginous, and, at length, when he was near death, black, yet still so as to be inclined to a ferruginous colour. In the morning, about ten hours after the beginning of the pain, Valsalva was called to the patient, who, observing an unpromising aspect in the face, an abdomen tense and tender to the touch, a low, and, as it were, constricted pulse, which could hardly be felt, urine of a colour degenerating into brown, and extremely turbid, and other things of the same kind, and seeing that so much mischief was done in so short a time, and calling to mind other observations of his of disorders not much unlike this, pronounced that he would die within the space of twenty-four hours. Yet, that the patient might not be immediately sensible of this, he ordered fresh-drawn oil of almonds to be given internally, and the belly to be anointed with oil of violet, with the addition of camphor, and two senior physicians to be sent for. Contrary to the opinion of Valsalva, blood was taken; in small quantity, however, as it came languidly, and the vein soon refused to bleed. A slight convulsion afterwards came on; the respiration became difficult, and the patient died.

Valsalva, putting his hand on the abdomen of the dead, perceived a fluid extravasated in the cavity. It was a fluid blood which had been effused to the quantity of about a pint and a half: some blood was also extravasated into the bronchia. The intestines were, in a great part of them, red in several places, especially those which lay uppermost in the abdomen; and the ileum had begun to be livid. The peritoneum was marked with black spots in several places, but particularly where it invests the diaphragm. But where it covered the stomach, which had a natural appearance in the internal surface, it was unequal, with black tubercles rather than spots. And these tubercles, although they had at first the appearance of glands, were, in fact, for Valsalva shewed them, nothing else but a stagnating blood, or the beginning of a gangrena.'

We have here a case of enteritis—modified indeed by some unusual symptoms, to which I shall presently recur; but, on the whole, agreeing with the nosological character of that complaint. For the inflammation here seems strictly of that kind which the word enteritis suggests, when used without any modifying epithet or condition. The inflammation of the mucous membrane of the bowels, or that in which such symptoms predominate, has been called erythematic enteritis, or has received other qualifying terms. But in the ordinary language of medical description, this latter phlegmasia takes its name from its most prominent symptom, and is called diarrhœa or dysentery.

The following case stands next to the above in Morgagni's work, and although it does not verify the ordinary nosological characteristics of enteritis so well as that does, I place it before you as constituting an example of a very important species of the disease; one in which certain conditions in the patient's constitution cause it to simulate a spasmodic affection, and perhaps occasioned the case under consideration to receive ineffective treatment.

A young man, who was much given to the use of wine and spirituous liquors, having laboured under an intermitting fever not long before, was seized with a pain of the belly, which a discharge of flatus removed. However, after some days the pain returned again, which not being able to get rid of at home, he was received into the hospital of St. Mary de Vita, at Boulogne, on the sixth day after the return of the pain. This was continual at the epigastrium, but slight, except that it now and then increased, and the belly was often at those times more swelled in that part; and if you applied your hand to it, you perceived many hard globules, as it were, seated in that region. But all these symptoms soon vanished, yet returned again at intervals. The stomach also was painful, and he now threw up all his aliments by vomiting, as well as his medicines, amongst which was even opium itself.

Under these circumstances emollient clysters were used, and motions produced; unguents also were applied to the abdomen without any effect. The patient bore the pain better when he was sitting up in bed, than in a recumbent position; for which reason he sat up even while he slept. He was also better, and slept better, with an empty stomach, than if he happened to keep any thing down. At last he began to retain some of his nourishment, and even his dinner also. His cheeks were red; he was thirsty: his abdomen was universally distended. It was now the fifth day from the time of his coming into the hospital; and I spoke to him as usual about the sixteenth hour. He said that he was a little better, which was confirmed by his countenance and alacrity of speech, and by a more firm vigour of body in sitting; for the pulse never had any disagreeable symptoms, nor had even then: there was indeed no perceptible fever in the whole course of his being at the hospital, except perhaps once. And from this state of the disorder who could have supposed that any thing so fatal was at hand? Yet scarcely two hours had passed from the time that I and

the other students with me had made their observations, when he began of a sudden to cry out from severity of pain, and that continually to the ninth hour of the night. In the meanwhile he had a vomiting, and in the evening he himself gave notice that his pulse could no more be felt, nor indeed could it be perceived by those who were present. When it was the ninth hour, to which I have observed that his pains continued, he said that he must get out of bed to have a stool; and while he was about this business, swooning came on, and he died in this manner within half an hour.

While his body was washed on the day following, a great quantity of putrid blood, as it were, flowed from his mouth, diluted with a stercoraceous fluid, smelling very strongly. By this means the abdomen became somewhat flaccid, and although in the epigastrium, which was livid, and in the other parts, it was still hard and distended, yet it was less so than it had been in the living body.'

When the knife penetrated to the cavity of the belly, a great quantity of this fluid was found there, having flowed, it may be presumed, from a perforation which the dissector is described to have made; for no ulcerative perforation of the intestine is mentioned. The small intestines were all as black as a charred coal; the spleen was affected partially with the same sphacelus. The stomach was sound, and all that part of the intestine which goes from the termination of the ilium to the left hypochondrium. The rest of the intestines they appear to have left unexamined, from the inconceivably bad smell.

Now assuming that these two cases are instances of enteritis in its most violent forms, it may be a matter of some interest to you to consider how they were contemplated with respect to treatment at that time, and how, through progressive changes, the class of cases of which they are marked specimens would be treated in the present day.

This 'profound or phlegmonous inflammation of the bowels,' as it is termed by M. Chomel, is by no means so common as the affection of the mucous membrane but it is far more rapid and formidable, involving peritoneal inflammation, and, to use a bold expression of M. Broussais's, chaining up (*enchainant*) the action of the bowels; for constipation is one of its most prompt and decisive symptoms.

The main remedy of enteritis has, from an early period, been venesection. In the first of the two cases above recorded, this remedy was considered, by Valsalva, inapplicable. His tact and experience probably told him that the case was out of its reach. His reasoning against it is vague and hypothetical, founded principally on the consideration, that there was what he calls convulsion present. As far as my experience goes, where enteritis comes on suddenly, with the extreme violence here depicted, it for the most part overthrows every remedy. Such was the following case:—In the April of the year 1824, I was sent for to see a lady whom I found in a dying state. Her age was 52. The intellect was perfect; the face sallow and collapsed; the pulse very low; the abdomen immensely swelled, very tender, and tense; the tongue dry. She died while I was in the house, at midnight.

In the morning of that day this lady had been in her usual state of health; though of a pale and cadaverous complexion, and though she complained much of indigestion, she was stout, and capable of considerable exertion. A skilful surgeon of the place had for some time been every morning introducing a bougie into the rectum of this lady, for a supposed stricture. The bougie had been introduced early that day, and she had remarked that its use was not, as usual, followed by an evacuation.

From this absence of evacuation she felt much inconvenience, which gradually increased through the day, with a gradual increase also of those symptoms which I found, as above described, at midnight of the same day. During that day all the various resources of art had been fairly tried; doses of calomel had been promptly given and repeated; enemas ineffectually administered; and leeches largely applied. The enemas returned without fecal matter, and the leeches only appeared to reduce strength.

Unfortunately no post-mortem examination was allowed; I cannot, therefore, tell you what part in this tragedy the bougies played. But I do not believe that there had been perforation of the intestine. The introduction of the bougie had been easy, and the surgeon was very skilful, and there was not any acute subsequent pain.

The latter two of the cases quoted from Morgagni was neither intense in its attack nor rapid in its progression. It affords a good instance of enteritis allowed to pass into sphacelation, absolutely unarrested by any appropriate remedy. The appropriateness of venesection to this case of inflammation can hardly be doubted, however unavailing in the more rapid forms of enteritis. A catalogue, indeed, of those who have recommended the abstraction of blood in this disease would include almost every valuable name in our profession; and the collateral remedies almost as universally suggested have been emollients and mild laxatives.

The deviation from, or the addition to

this principle of treatment is, I believe, altogether English; and if in the first respect we have in some important instanees deviated to the disadvantage of the public, in the second respect we have, I believe, eonferred an important benefit on soeiety.

Dr. Pemberton, in his valuable work on the viscera of the abdomen, after a very luminous and distinet aceount of peritoneal or phlegmonous enteritis, lays down for it a principle of treatment, from his aceount of whieh the following is an extract:—

"As soon as the disease is aseertained to be enteritis, blood should be taken largely as well from the arm as locally. 16 ounces may be taken from the arm, or the same quantity by eupping; 8 leeches applied to the whole abdomen, but more particularly to that part of it which is opposite to the cœeum. If the stomaeh will bear liquids of any sort, a strong solution of magnesia sulphate, in aqua menthæ pip. with an addition of tincture of senna, may be ordered in such quantities and at sueh intervals as the sickness of the stomaeh will allow. If, however, all liquids are rejeeted, we may direct an usual dose of calomel in union with the ext. colocynth, comp. every six hours, ad 4tam. visecm.' The purgatives, Dr. Pemberton afterwards observes, are to be eontinued during the whole progress of the disease.

Now, many recollections make it painful to me to criticise Dr. Pemberton. But assuredly this is a line of practiee ill adapted to the condition of the part affected. The eompound extract of eolocynth, the tincture of senna, the strong solution of Epsom salts, constitute a strange application to parts through the delicate texture of which inflammation is at some point making its way. The consequenee of the treatment, and the only ehanee of the patient in reference to it, must be a very eopious abstraction of blood, carried into effect, not merely for the sake of the disease, but also for the removal of mischief done by irritating remedies. This eonsideration seems even to have escaped the sagaeious mind of Dr. * Darwyn, when he recommends small doses of aloes, repeated every hour, under enteritis. Here, indeed, the thorough soundness of Dr. Baillie's judgment saved *him* from the error, into which his eminent eolleague aeeidentally fell. We find in his posthumous work his opinion recorded, that in inflammation of the bowels 'the inflammation should be subdued, or at least be much lessened, before any active purgative is administered.' "A purga tive," Dr. Baillie observes, "during the violence of the inflammation, will rarely produce any evacuation, and may even do some injury, by stimulating a part still highly inflamed." But even while the doctrine to which these remarks of Dr. Baillie are opposed, was passing through three editions, and materially influeneing practice, even then that better doctrine was being gradually evolved, which is glanced at in the posthumous work of Dr. Baillie, and which has since been extensively applied both in phlegmonous and erythematic enteritis. We find a distinet notiee of this doetrine in the syllabus of lectures delivered at Guy's Hospital by Dr. James Curry; between whom, be it observed, and Dr. Pemberton, if any body had at that day instituted a comparison, the merit of soundness of judgment would have been assigned to the latter, and the imputation of speculative fancifulness to the former. Fanciful, no doubt, Dr. Curry was, and somewhat addicted to the discovery of hepatic disease when it did not exist; but he possessed, in an eminent degree, the capacity for taking large views, without whieh a man may make a fortune by medicine, but cannot leave a reputation behind him. I think it may be interesting to you to hear the article in Dr. Curry's syllabus to whieh I refer:—

The indications, according to Dr. Curry, in the treatment of enteritis, are, "1st, to lessen or check the inflammatory state by venesection; by leeches and blisters to the abdomen; by digitalis. 2ndly, to allay pain, vomiting, and spasm, and to produee determination to the surface of the body; by the warm bath, and fomentation; by rubefacients; by opium, either alone or joined with calomel, or certain other forms of mercury, and oeeasionally mild diaphoreties, thereby preparing for, 3rdly, the rendering the intestinal canal capable of being cleared by suitable catharties."

Of the value of digitalis as allaying enteritic inflammation, I have no knowledge or experienee. But Dr. Curry's query, as to the effeet of opium, with or without calomel, is most important. It is, indeed, painful to think how mueh valuable speculation perished with him, unrecorded. Those who have perused Dr. Ferguson's valuable work on puerperal disease, will also have the advantage of reading Dr. Watson's observations on the uncombined opiate praetice in acute abdominal inflammation. After noticing its useful application generally in the irritable constitution, and particularly in peritonitis, and pointing out its good effects in that disease, as arresting the peristaltie movements, Dr. Watson presents us with an abstraet of the method of applying this practice, suggested by Mr.

* Darwyn's Zoonom a, vol. iii. p. 329.

Bates, of Sudbury. This gentleman recommends two plans. The first plan consists in a careful observance of the horizontal position. Venesection, opiate and amylaceous enemata, repeated at an interval of 12 hours; laxative enemata, when the bowels are confined; cool and emollient drinks.

The second plan suggests the use of opium in the following form: — Pulv. Opii, acaciæ, antimonialis, aa. gr. j.; confect. rosæ, q. s. To be used every hour, until pain has ceased, with the addition of opiate enemata, should this plan be insufficient; no calomel.

Of the methods which those adopt who prefer the combination of opium with mercurials, I shall present to you as specimens the two following cases:—The first of these cases, which I extract from my own note-book, has as much right to be called peritonitis as enteritis. But those who pursue these distinctions scrupulously into practice, require to be reminded, that nosology has far more to do with the acquisition than the application of knowledge; and that every case of phlegmonous enteritis is a case of peritonitis. This is the case of a young woman, of a large and sanguine person, and apparently vigorous constitution, whom I saw in the autumn of 1828. She had been attacked, two days before, with intense pain and tenderness of the abdomen, and excessive vomitings; these symptoms had been somewhat mitigated by the abstraction of blood to 46 ounces, and the bowels had acted partially from aperients given and leeches freely applied. The patient was lying in a state of extreme exhaustion; there was no hysterical or nervous symptom; her head was clear, her aspect contracted, and much blanched. She complained, still, of severe pain in the abdomen, and the tenderness at points was intolerable; the distension not excessive. The urine was sufficient in quantity, and not remarkable in colour. Neither mercury nor opium had at that time been given. I ordered a large emplast. lyttæ to the abdomen; 2 grains of calomel, 2 grains of James's powder, 3 grains of extract of poppy every 6th hour, and a mild saline medicine. The blister instantly mitigated the tenderness. In 30 hours she was salivated, and obtained very large fecal evacuations; and from that time she rapidly convalesced. Now this case illustrates the same common method of applying that principle of practice to which I call your attention, as engrafted within the last 40 years upon the emollient and depletory system of former days; and if, in this case, its application was somewhat delayed, its efficacy was by this very circumstance placed under a stronger light. How far opium uncombined may cut short an inflammatory process, upon the principles above alluded to, is a question, I think, as yet unsettled. But when inflammation has had time to effect structural alterations, few, I imagine, who have seen such changes as were effected in the above case by calomel and opium, would rely upon the single efficacy of the latter.

The next cure exhibits a gigantic form of the same combination, which I saw applied under great emergency with equally beneficial effects, and without any disadvantage to the general progression of the case or the constitution of the patient.

Henry Middlehurst, aged 17, a tailor, entered the Middlesex Hospital on the 17th of September, 1838, looking very ill, and complaining of pain in the epigastrium, his whole abdomen being tender, full, and tense. He had been taken ill with rigors some days before, and had vomited much previously to his admission. His bowels had not been moved for a week.

Sixteen leeches were applied to his abdomen, and five grains of calomel given every fourth hour. An enema of hot water was thrown up and retained: in the evening sixteen more leeches were applied; on the 18th, no relief having been obtained from the leeches, the pulse being small, sharp, and 108 in number, the bowels remaining inactive, and the abdomen exquisitely tender, with a thickly-coated tongue, venesection was directed; only four ounces of blood were obtained, and thirty leeches were applied; pills of blue pill and calomel prescribed every fourth hour. In the evening of that day the apothecary of the hospital found him suffering equally from pain and tenderness of the abdomen, and in a state of intense restlessness and jactitation, with a pinched and anxious countenance. Under these circumstances he gave him 5 grains of opium and 12 grains of calomel in a powder. Soon afterwards he fell asleep, and gained much sleep during the night. Next morning the expression of his countenance was materially improved: it was less pinched and less anxious: he was tranquil; his belly was less tender; his tongue cleaner; no stool had however passed: 5 grains of pil. sapon. c opio were now ordered, and on the 20th his bowels were freely relieved, and the abdomen became less tender. Under a continuance of the opiate treatment, one grain ter quotidie, to the 3rd of October, he gradually emerged out of all his symptoms. The opium being discontinued, diarrhœa took place on the 5th, which was relieved by a

renewal of this treatment, with an opiate enema beside. He left the hospital on the 20th, quite well.

You have in the two cases here given successively, two methods of administering calomel and opium under enteritic affections. In the first they were blended together: in the second the calomel was at first given uncombined, and the large dose of opium was finally given with a full dose of calomel, and followed up by uncombined doses of opium.

In the following case, that of a valuable member of our own profession, I lay before you the three remedies of venesection, of opium, and of calomel, rendered painfully inefficient or insufficient by a feeble and inadequate application of them.

The case deserves to be recorded; just as the log-book of a ship contains its aberrations, as well as its right course.

On Sunday night, says the narrator of this case, I was sent for to see Mr. N. I found him in bed writhing under acute pain, referred to the epigastrium, but inclining to the right side; vomiting incessantly; pulse very small; skin cold and clammy; belly tense; bowels had not been relieved during the day. On inquiry I found that he had been suffering under pain and sickness during the previous week; but on the Sunday morning had expressed himself as feeling quite well, and had been walking out in the village. Just before dinner, 5 P. M., he was complaining of slight pain in the stomach, and thought he should feel better for his dinner, having fasted since breakfast. Soon after dinner the pain increased, accompanied by vomiting, and he was carried to bed, when I saw him as before described. On my seeing him he was most importunate to be blooded, assuring me that he was labouring under enteritis; I replied that I had rather wait till a little reaction ensued. I then gave from sixty to seventy drops of laudanum in a little brandy and water, applied hot fomentations, and threw up an enema, with ol. ricini and decoct. avenæ.

I then spoke to Miss N. about another opinion, &c. Mr. N.'s sufferings were intense: at his urgent request I bled him to twelve ounces, and applied twenty leeches to the part, directing four grains of calomel and one grain of opium to be given 6tis horis. These doses were persevered in to 7 P. M. the next day, when the patient died.

Autopsy.—Duodenum much inflamed; gall-bladder much inflamed, and full of very large stones: cystic duct much inflamed, and also containing calculi: pancreas, and right kidney, very soft. It is pretty obvious that in this case much larger depletion should have preceded the use both of the calomel and the opium.

It is somewhat remarkable, and might lead us to some distrust of that combination of opium with mercurials, which has become so favourite in English practice, that it has attracted but little notice among our French brethren. And yet I cannot help attributing this more to the direction in which French inquiry in medical subjects has proceeded of late years, than to any want of importance in that combination, as a curative agent. Their leaning has been towards the side of pathology; and their discoveries, I mean the discoveries of their physicians, have been in morbid changes of structure, far more than in the agency of remedies on disease. Yet, in perusing the valuable cases of Broussais, of Andral, and of Louis, I see no reason for doubting that the use of calomel and opium might have been added as beneficially to venesection, emollients, and purgatives, in many of these cases, as it appears to have been among us. In the 413th page of M. Andral's Clinique Médicale, vol. 4, a case occurs of what he terms 'the cure of acute peritonitis.' The case opens with intense abdominal pain, increased by the slightest pressure; general tension of the parietes of the abdomen; continual sickness; an anxious expression of countenance; a confined state of bowels; an obscure fluctuation in the cavity of the abdomen: it is conquered, (the treatment commencing at an early period) by the usual course of leeches, venesection, castor oil, fomentations, ptisanes, warm baths, and emollient drinks: in twenty-seven days he left the hospital re established in health. Two years afterwards he returned, exhibiting symptoms of tubercular disease, of which the report affirms that he shortly died.

The examination of the body disclosed tubercles of the lungs, not however described as in a suppurative state: ulceration in the intestines; adhesion of many convolutions of the small intestines by a cellular texture, similar to that observed in the pleura; many similar adhesions of the transverse arch of the colon to corresponding points in the greater curvature of the stomach; no liquid effused in the cavity of the abdomen.

Now it will be observed that this case of peritonitis, and subsequent death from tubercles, as it is called by M. Andral, will very well bear the description of a case of the acute stage of the disease, imperfectly treated; leaving a chronic residuum, which proved eventually fatal in a scrofulous subject. The cure of such a disease is a race against time; the addition

of a principle of treatment which might have given more rapid effect to the valuable remedies actually used, might have conquered it before it had had time to produce so much organic change. The relation in which M. Louis views what he terms a 'gastro-enterite' to adynamic fever, and the cautious use which he is disposed to make of direct depletion in the treatment of the gastro-enterite under these circumstances, might have been expected to recommend mercurials at least to his consideration. Yet they are not even adverted to by M. Louis: and it is somewhat curious, that while on this side of the channel we are actually using on the largest scale, and with much assumed benefit, this remedy, combined with opium, in the above class of cases, M. Louis closes his scanty catalogue of therapeutical agents with the following prophetic aspirations after an improved system:—

"The scanty success hitherto obtained, ought not to discourage the friends of science and humanity, or make them believe that a treatment will not some time be discovered more appropriate to the disease which occupies our attention. Who could have foreseen the effects of opium, of bark, or of vaccination?" Such remarks are very just; but if such are his anticipations, it seems strange that M. Louis should not endeavour to ascertain whether such a discovery may not be at present in progress, with respect to this important subject.

Before I leave this subject, I would request, gentlemen, your attention to a form of abdominal disease which perhaps may throw some light on the character of enteritis when it assumes its graver and more intractable form.

Miss Harriet M——, aged 22, having eaten a dinner of a more varied nature than usual, was attacked the next morning with a vomiting of a green tealeaf-like substance, in a great quantity of watery fluid. There was no fever, no alteration of pulse, which was habitually a low one, and little sense of general disorder, except under the approach of vomiting. A feeling of weight and obstruction at the epigastric region, and a considerable confusion of thought throughout the whole of this attack, constituted, indeed, with the above symptoms, the sum of her grievance; except, indeed, when aperients were given her, and these occasioned her intense pain, without, during the first three days of the disease, obtaining any fecal discharge. There was no distension of the abdomen; no tenderness on pressure; and the vomiting itself, though preceded by much irritation and uneasiness, was not attended even by nausea. The treatment adopted for about a week, during which the above symptoms continued, with constipation of the bowels but very little diminution of the quantity of urine, was, first, doses of calomel, with aloes and saline aperients, for about three days; then a blister to the abdomen, which gave her a sense of considerable relief; then aperients of camboge, aloes, and jalap; finally, successive doses of calomel and the pulv. scammoniæ comp., with lavements of infus. sennæ, sulphat. magnesiæ, and ext. colocynth comp. These succeeded in freely opening her bowels, with a sense of considerable relief to the confusion of head above alluded to.

The motions thus obtained from this lady were large in quantity, and principally consisted of the same tealeaf substance as she had vomited, floating in watery fluid. The latter motions, however, contained fecal matter tinged with bile. She expressed herself much better, and obtained some sleep that night and the next, taking and keeping on her stomach arrowroot and similar nourishment. On the ensuing morning a remarkable change occurred. The catamenial discharge, which had been proceeding for the last three days, was observed rapidly to increase in quantity; a low delirium came on; petechiæ exhibited themselves, and increased with formidable rapidity over her whole person; blood poured forth in her motions and in her urine; and by one o'clock that day she was no more. The state of decomposition into which she was rapidly proceeding would have made an examination difficult: it was, however, refused by the family, and Mr. Kelson and I were left in painful uncertainty as to the nature of the disease which had been thus terminated.

Laying this case, in conversation, before my friend, Mr. G. Young, I was favoured by him with the facts of another fatal attack, which appeared to me to suggest a conjecture as to the part played in the above tragedy by that class of symptoms, which developed themselves unexpectedly at its close.

T. C., aged 52, had been for some time subject to dyspepsia, previous to the attack which terminated his life. On the evening prior to that attack he had taken his tea and gone to bed at his usual time. His maid, observing that his candle was burning, had come into his room and put it out, when she found him asleep: waking up, he desired it should be left, until his son should come home from the play, as he wished to read. About this time he took two French plums, which he often ate for their laxative effects. Soon after this, his son coming home, found him complaining of pain at the stomach. He asked for some brandy and water, which his son declined giving him. Speedily he

began to vomit, and requested that a medical man should be sent for. A medical practitioner arrived speedily, and feeling his pulse and heart, requested, with alarm, that stimulants should be given him instantly. Within three quarters of an hour from the commencement of his seizure (at least from the coming home of his son), he was no more. His mind was perfectly collected throughout this attack, and a short time before he had been seen by the maid in his usual health.

The only morbid appearances visible, on a careful dissection, were as follows:—

Petechiæ extensively spread between the coats of the stomach, the mucous membrane being perfectly healthy, and there being no appearance of inflammation in the spaces between these petechiæ.

An ulcer in the posterior part of the aorta, without any aneurismal sac or dilatation, and which had not penetrated the coats of the artery.

A relaxed and flabby heart, the walls of which tore easily.

Decomposition took place very speedily.

Now viewing this case in reference to reflections which it may suggest on that of Miss M——, over whose person petechiæ largely developed themselves in the latter part of her attack, we may consider it as furnishing us with an example of a condition of the stomach which probably existed from the commencement of Miss M——'s illness, and progressed more tardily to a fatal termination; her constitution being young and unbroken, though delicate and relaxed.

In Mr. C.'s case the disease had not had time to extend its ravages so far. His death, at this stage of the attack, was probably accidental, and connected with the condition of the heart above described.

The following case further illustrates the variety of purpura to which I am calling your attention:—

In the latter part of last March I was sent for to see the groom of the Rev. Mr. Keene, an athletic young man, aged 23, apparently of a good natural constitution. I found this young man labouring under very intense pain at the epigastric and umbilical region; it was increased by pressure, but he did not seem to derive benefit from keeping the same posture. The abdomen was neither hard nor tumid, the pulse 80, not remarkable in character, the tongue clean. He had been attacked during the night, and had vomited a good deal; the bowels had not acted for the last twenty-four hours. His countenance had a purplish hue, and he looked very ill. He mentioned that he had some spots on his arms, and I expected to find the symptoms of the spotted fever of last winter on his person; instead of this, I found some large petechia on his arms, and his legs and thighs covered with them. I directed a large emplast. lytta to his abdomen, and gave him four grains of the chloride of mercury, three grains of James's powder, and three of extract of henbane, every sixth hour; ordering also a saline intermediately, and an aperient lavement in the evening. The next morning I found that his bowels had acted freely, his motions adequately bilious, and that the pain of the abdomen was completely removed; the petechiæ were fading, and his countenance was very much improved and cheerful. He was now removed to the Middlesex Hospital, as the family were leaving town. He bore the removal well, and was very comfortable in the evening. Some blood appeared in his evacuations; and a turpentine lavement being thrown up the next morning, a very large quantity of blood came away. He remained about a week in the hospital, with no other treatment than a repetition of this lavement, and left it perfectly well—the petechiæ having gradually faded.

During the latter days of his residence at the hospital he appeared perfectly free from every kind of uneasiness.

The *tendency* of the above remarks (to use the least presumptuous language,) is to point out a form of purpura, certainly of great magnitude, but somewhat different from the ordinary forms of the disease, or, perhaps I ought to say, from the ordinary descriptions of it: for I have ordinarily found petechiæ, in pathological descriptions, either constituting a symptom of a specific fever, or supposed to have sprung up in the latter stage of such diseases, as debilitate the system and relax its contexture. The cases of Miss M., of Mr. C., and of the groom, tend to discredit the latter supposition, and to point out that the petechial state may have constituted the very essence of the disease, though its late development on the external surface of the body may have given it the character of a mortuary symptom, occurring at its close.

But there undoubtedly exists a form of purpura sufficiently distinguished from that which I have endeavoured to illustrate, and constituting strictly a petechial fever; the pyrexia being as clearly pronounced in it as in measles or smallpox. This is the acute form of purpura usually recognized by pathologists, and illustrated in the following formidable case, which I have extracted from the Ratio Medendi of Stoll, as being remarkable for the distinctness of its characteristics, as well as for its violence:—

"A young woman, 20 years old, for two months is complaining of lassitude; she is becoming morose in character, slow in

her movement, and melancholy. Her catamenia have been generally regular, somewhat too profuse during those two months.

"On the 3rd of April she happens to fly into a violent passion; presently she becomes feverish, and complains of intense pain in the head, the left side principally. On the same day she has a hæmorrhage from the nose. To the 16th of the month the fever is continuous, though never very violent. The tongue is spread with much mucus.

"Salines and absorbent medicines were given; blood was once taken from the arm; leeches once applied to the temples.

"On the 16th she was received into the hospital; her pulse was somewhat full and strong, but scarcely quicker than in its natural state; little heat of skin. Hemicrania on the left side, want of appetite, but little thirst. Soothing and laxative remedies being given, for a few days she seemed better; about that time three or four ounces of blood came from the gums. The mouth, the fauces, and the roof of the mouth, painted with very red spots.

"From the 22nd to the 25th inclusive, during which days she was using a decoction of cinchona, the fever was rising and increasing; there was jactitation, restlessness, heat, increase of pulse: petechiæ spread themselves widely over the thorax, breast, both arms, and the face; few however in number—of a violet, red, or blue colour.

"During the whole period of the disease the countenance and person were exsanguinnate, the teeth black, the gums and fauces very pale. She wandered during the night; on the morning of the 26th she was convulsed, became drowsy, and breathed hard and slowly. In the evening she died."

The body was dissected by Stoll himself. The pleura, the internal and external surface of the pericardium, each surface of the diaphragm, the fat behind the heart, were dotted with petechial spots. The blood contained in the larger veins was dark and perfectly fluid. The heart itself was dotted with petechiæ. There were a few petechiæ on the peritoneum and intestines.

The outer surface of the rectum was perfectly black, of the colour of ink; and the omentum had the appearance of being bespread with pulverized charcoal. The uterus had, on its exterior, substances of the character of white warts.

With respect to the brain, each of its meninges was spotted, principally on the left side, with large petechiæ, of a red, blue, or black colour. There were many also in the substance of the brain. The left ventricle was highly distended with a very yellow fluid, and the walls of each lateral ventricle were thickly spotted with petechiæ.

The cerebellum was marked with unnumbered spots of this kind, large in size, red or black in colour, both as to its surface and in its substance.

The petechiæ on the surface of the body penetrated very deeply, even to the adjacent fat, but not into its substance.

When we construct nosological distinctions, it is not meant that the several heads of the arrangement are distinct in essence, but that they have sufficient points of difference to authorize our viewing them as distinct *for practical purposes.*

And thus, I imagine, the petechial fever, which I have extracted from Stoll, may justly be considered as distinct from the the petechial phlegmasia, of which the preceding cases bear the character; while these last have affinities and yet important distinguishing points in reference to enteritis.

CASES ILLUSTRATIVE OF SOME OF THE MODES IN WHICH PUERPERAL INFLAMMATIONS PROVE FATAL AFTER A PROTRACTED COURSE.

By John Thurnam.

[*For the London Medical Gazette.*]

In the following paper I have collected the particulars of five cases having a common general character, and presenting, I think, a certain degree of interest in connexion with the clinical history of puerperal inflammations.

Without at present stopping to allude to the peculiar characters of these cases, I may just observe that from their first attracting my attention I was induced to believe that they belonged to a class which had scarcely, if at all, been alluded to by writers on puerperal diseases. This impression has been still further strengthened by the results of an investigation (which, however, has only been partial) into the works of the principal authors on the subject.* I

* Hey, Gordon, Denman, Armstrong, Mackintosh, Campbell, Gooch, and Lee, in their respective works; and papers in Edinburgh Medical and Surgical Journal, vols. 22 to 51, by Matoschek, Cusack, Luroth, Tonellé, Dance, Duplay, Ingleby, Renton, and Sidey; and those of Dr. Helm, in Med. Gaz. N. S. vol. 2.

had indeed prepared the greater part of the materials for this paper before I met with a decided reference to cases of the kind I am alluding to, in the recent important work of Dr. Ferguson, on Puerperal Fever*. I cannot, I think, do better than here repeat the observations of that author, as they will form the appropriate introduction to this paper:—

"There is," observes Dr. Ferguson, "another effect of this fearful malady, which I have remarked, but never seen described Persons who have recovered from an attack of puerperal fever, apparently of no great urgency, often do not regain health for several months, nay, even for one or two years. Their pulse continues rapid and irritable, and scarcely an evening passes without slight febrile excitement. In some, boils or abscesses break out from time to time; in others, the mucous membrane of the intestinal canal is affected by the presence of a painful spot, or by great irritability, and the consequent variation in the quantity or quality of its secretions. In all there is much emaciation. This state of constitution is often produced after exanthematous fevers, and I have known it occur in two instances after puncture from dissection. As yet I have seen no fatal termination to this very distressing, and, to the friends of the patient, and the patient herself, alarming state of things. The plan pursued by me in its treatment has been—1. A sustained course of sarsaparilla and mercurial alteratives. 2. The warm bath twice a week. 3. A change of climate, and the use of some of the foreign mineral waters, selected with reference to the peculiarities of the case."

Upon referring to Dr. Marshall Hall's work "On Diseases of Females," I find, however, that he also had briefly alluded to some such insidious and protracted cases.

"In other cases," says he, "the abscess has not been evacuated during life; but the patient has gradually emaciated, and the health and strength have failed. There have been great frequency of the pulse, and hectic, and the disease has at length, though perhaps very slowly, proved fatal. It has, however, occasionally happened that the effused fluid has been re-absorbed, and the fatal event averted*."

Before at once passing to the narration of the cases, I may remark that it may at first appear singular that whilst Dr. Ferguson had never met with a case that proved fatal, I should be able to produce so many as five fatal examples; and this circumstance may probably induce some to question the identity of his and my cases. The principal difference between the cases which I am about to relate, and those which have been thus briefly but graphically described by Dr. Ferguson, would appear to depend upon the circumstance, as I gather it from the general tenor of his description, that Dr. Ferguson's observations have chiefly been made in the walks of private life, and among the more respectable classes of society; whilst mine are derived from the public practice of an hospital. Dr. Ferguson seems to have contemplated the disease in its more tractable and less severe forms, and under circumstances of ease and comfort, necessarily more favourable to recovery; whilst it has been my lot to witness it in its more advanced and incurable stages, aggravated very possibly by intemperance, anxiety, and want.

It will be seen that the five cases all occurred at the Westminster Hospital within a period of less than three years, during which time I was the resident medical officer of that institution. Hence I can scarcely avoid suspecting that such cases would, upon inquiry, be found to be far from uncommon in the practice of general hospitals in all large towns, and particularly in those of the metropolis. That they have hitherto been but little, or, if we may judge from what has been published, not at all noticed, I think is perhaps attributable to the circumstance of the officers, both medical and surgical, of these important institutions, not generally taking much interest in the department of medicine to which these cases belong; so that either their connexion with the puerperal state is not fully if at all recognised, or if recognised is passed over and forgotten, instead of being added to the store of recorded facts and principles.

* See Essays on the most important Diseases of Women, page 228, part 1.

* Op. cit. 1827, p. 184.

Case 1.—*Labour followed in three weeks by inflammatory symptoms.—Chronic metro-peritonitis, with abscesses in the left groin, and extreme emaciation : Death at the end of three years.—Extensive adhesions of the pelvic viscera confined to the left side of that cavity.—Atrophy and valvular disease of the heart.—Granular kidneys.*

Sarah Bryant, aged 32, was delivered of her fifth child in the year 1834, previously to which time she had enjoyed general good health. About three weeks after her confinement, as near as she can recollect, she had an attack of pain in the region of the womb, after which her health gradually became impaired. A tumor, which subsequently proved to be a chronic abscess, afterwards formed in the left inguinal region, almost precisely in the situation of hernia.

She had been admitted on two occasions into a public hospital, under the charge of a highly distinguished surgeon, who was stated to have regarded her case as connected with hernia ; for the relief of which an operation was even performed. She remained, with intervals, more than two years in this institution.

She was admitted into the Westminster Hospital, as a patient of Mr. Guthrie, in September 1837. At this time the emaciation had become extreme ; there were numerous sinuses in connexion with the abscess, burrowing about the left hip ; there was at this time no diarrhœa, in fact she required occasional laxatives ; the evacuations were passed with pain. The treatment was merely palliative, and she died, completely worn out, October 11th, 1837, about three years after delivery.

Dissection.—The lungs were slightly congested and œdematous. The heart was very small, and only weighed 5¾ ounces (avoir.) The left ventricle was closely contracted, giving the appearance of " concentric hypertrophy," but this was doubtless dependent upon the small supply of blood which it had received during life, in consequence of the extremely debilitated state of the patient. There was considerable thickening of the free border and of the tendinous cords of the mitral valve, and in a less degree of the aortic and tricuspid valves. There was some hepatic-venous congestion of the liver. The upper abdominal viscera were otherwise healthy. The sigmoid flexure of the colon, the rectum, the uterus, and the bladder, were closely matted to each other on the left side of the pelvic cavity, through the medium of old adhesions. The lower part of the colon was also adherent to the parietes, in the right iliac fossa, and closely corresponded to one of the sinuses of the abscess.

This part of the intestinal canal was very much contracted, and could only have afforded a small channel for the fæces. The abscesses were found to be limited to the left side of the pelvis and lumbar region, and had burrowed extensively over the surface of the ilium and lower false ribs ; the surfaces of both of which were extensively denuded of periosteum.

Both the kidneys were small, contracted, and the seat of extensive pale granular degeneration. The bladder contained some urine, which was of an offensive odour, and proved to be albuminous. No dropsical symptoms had been noticed during life.

Remark.—I will only observe of this case, that its anomalous nature during life may be regarded as sufficiently evident, from its having been mistaken for hernia by so distinguished a surgeon as had at one time the care of the patient.

Case 2.—*Healthy labour, followed in ten days by phlegmasia dolens of the left, and, in a less degree, of the right lower extremity ; chronic metro-phlebitis, sloughing abscesses around the pelvis, diarrhœa, and extreme emaciation.—Death at the end of the third month.—Diseased appearances in the uterus and left spermatic veins.—Peritoneum healthy.*

Catherine Wadley, aged 20, was delivered of her first child in July, 1836, her labour being unattended by hæmorrhage, or any other accident. During the latter part of her pregnancy she had suffered from severe pain referred to the lower part of the spine, but which was unaccompanied by any other symptom, and was probably merely sympathetic. About ten days after delivery, she was seized with an affection which deprived her of the use of both lower extremities, and which she describes as " rheumatic," though obviously of the nature of

phlegmasia dolens. It was attended by much pain and swelling, extending especially from the left inguinal region downwards. It does not appear that any active treatment was adopted, and in the course of the third or fourth week after parturition abscesses began to form over the sacrum and both trochanters; a troublesome diarrhœa set in, with emaciation and debility, which latter advanced very rapidly. She was admitted into the Wesminster Hospital, under the care of Mr. Guthrie, September 13th.

The abscess over the sacrum, and that over the right trochanter, had opened spontaneously, presenting two large unhealthy looking cavities, with sores of sloughing cellular tissue, which discharged a large quantity of very offensive sanious pus. The abscess over the left trochanter had obtained a considerable size, and was extremely painful; indeed, her case was pitiable in the extreme, the position of the abscesses and sores being such as almost to preclude her obtaining any sleep. The tongue was slightly furred; the appetite but little impaired; the pulse and skin indicated a slight febrile disturbance of the system; there was no tumor detected, nor pain excited, by moderate pressure in the hypogastric region. A generous diet of animal food, with bark, wine, and Griffith's mixture, were prescribed, and she was placed on Arnott's hydrostatic bed. She experienced some comfort from the bed, but after being in the hospital about three weeks, the diarrhœa increased very much in severity, and resisted opiates, absorbents, and the various other means resorted to for its relief. The abscess over the left trochanter also broke, and was attended with extensive sloughing of the integuments.

She was gradually exhausted by the diarrhœa and suppuration, and died in the last stage of emaciation, October 20th, about three months after delivery. Eighteen hours after death I made the

Dissection.—No marks of peritonitis were observed upon the surface of any of the abdominal viscera.

The liver and right kidney were healthy, excepting that the latter was decidedly anæmic. The uterus was rather large, its tissue hard, and towards its internal surface singularly mottled with green and white. The mucous membrane lining it was softened, and had the same mottled appearance. The left spermatic veins were distended by numerous fibrinous coagula, which in many places adhered by slight pedicles, and in others in a more uniform manner, to the lining membrane of the veins.

The right spermatic veins presented no diseased apppearances. The iliac veins and vena cava were omitted to be examined.

The mucous membrane lining the rectum was of a very red colour, and much softened, but neither it nor that of any other part of the intestinal tract examined presented any trace of ulceration. Upon removing the viscera, an unhealthy gangrenous abscess was found in the left side of the pelvic cavity, which was continuous through the ischiatic notch, with the abscess over the left trochanter. The bones of the pelvis were extensivly denuded of their periosteum, and there was considerable morbid consolidation and sanious softening of the adjacent muscular and other structures.

The corresponding structures on the right side of the pelvis were healthy.

The brain and thoracic viscera were not examined.

Remarks.—This case is the only one of the series in which the uterine lesion was confined to the veins and substance of that organ, and did not implicate the peritoneum. It may likewise be remarked, that a connexion of cause and effect can scarcely be doubted to have existed between the facts of the left spermatic veins being those chiefly affected, the left extremity being the principal seat of the phlegmasia dolens, and the left hip that of the abscesses.

Although the history is not very definite on that particular, yet it is but too probable that the melancholy termination of the case is to be attributed to the want of active and judicious treatment in the first instance.

Case III.—*Abortion at the end of the third month of utero-gestation; preceded by acute pain around the uterus.—Chronic metro-peritonitis, with abscesses two months after the abortion, over the right hip, diarrhœa and extreme emaciation.—Death at the end of $2\frac{3}{4}$ years.—Universal adhesion of the pelvic viscera, inclosing collections of altered lymph, &c.—Atrophy of the heart*

Penelope Harvey, aged 31, had been

pregnant about three months, when she was attacked with severe pain in the region of the womb, which terminated in abortion, at the end of about a fortnight. The abortion was not attended by much hæmorrhage, and the uterine pain appears to have shortly subsided. About two months after the abortion a swelling appeared over the spine of the right ilium, and her health and strength were much affected.

She applied for relief at a dispensary, where the swelling was blistered. It increased in size, and proved to be an abscess, which burst, and discharged much sanious pus for more than two years and a half. She was also troubled with considerable leucorrhœa: the catamenia never returned after the abortion. She was admitted into the Westminster hospital, under the care of Dr. Roe, July 28th, 1835. Her general debility and emaciation were then extreme; the absceess, which had formed numerous sinuses, still discharged; there was considerable diarrhœa, with œdema of the feet, and profuse perspiration. The treatment consisted of a generous diet, with wine, quinine, and other restoratives, as well as of various remedies for the diarrhœa.

Exhaustion, however, gradually advanced, and she died September 15th, 1836; about two years and three quarters after her abortion.

Ten hours after her death I made the *Dissection.*—The left lung had a few tubercles in different stages scattered through it, and its apex exhibited a small contracted and old excavation. The right lung was free from tubercles. The heart was very small, and only weighed $3\frac{3}{4}$ ounces (avoirdupois). The lobules of the liver were larger and more distinct than usual. The rest of the upper abdominal viscera were healthy. The greater omentum was adherent to the fundus of the bladder. All the pelvic viscera, including a large portion of the ileum, were strongly adherent to each other. Upon separating these old adhesions, a large collection of thick glairy matter, as much like mucus as pus, and varying in colour from yellow to dirty-brown, was found surrounding the uterus. The peritoneum forming the walls of this collection was rough, velvety, and thickened, and had more resemblance to a mucous than to a serous membrane. The uterus itself was smaller than usual. There was no ulceration or perforation of the intestinal canal. The abscess contained a foul sanies, and was found to occupy the whole of the right iliac fossa, and to burrow upwards towards the lumbar spine.

A large sinus was likewise found making its way among the muscles of the thigh, and entering the cavity of the pelvis through the right great ischiatic notch: it joined another sloughy abscess in front of the sacrum, which was denuded of periosteum, and carious. The kidneys were pale, and of a livid hue.

Remarks.—This case, as well as the following one, are interesting, as having had their origin subsequently to abortion.

Not that puerperal inflammations after abortion can be considered as particularly rare, as the cases of Hey, Campbell, and Mackintosh, sufficiently prove*; but that we should, I think, be disposed, *à priori* to question, whether the injury inflicted on the uterus and its appendages, by abortion during the early months of pregnancy, is sufficiently severe to give rise, under ordinary circumstances, to cases so protracted and lingering as those we are considering. Perhaps no circumstance more strikingly exhibits the degree of emaciation which takes place in these cases, than does the small size of the heart, which indeed may correctly be considered as atrophied.

The average weight of the heart in adult females, according to the researches of Dr. Clendinning, is $8\frac{1}{8}$ ounces†, whilst, in the preceding, as well as in the first case, this organ only weighed $5\frac{3}{4}$ ounces. Of the hearts of nearly two hundred adult subjects that I have examined by weighing, the two under consideration were, with but two exceptions in cases of phthisis in very puny subjects, the lightest. These two cases, it may be remarked, were by far the most protracted of the series.

Case IV.—*Abortion at the end of the third month of Utero-Gestation; followed by Uterine Hæmorrhage, and at a later period by Gestation.*—

* See likewise an interesting and complicated, but fatal case, of acute metro-peritonitis after abortion, which occurred in the Westminster Hospital, London Med. & Surg. Journ. (Ryan's) vol. viii. p. 121. The inflammation in this case followed the retrocession of an acute eczematous eruption.

† Medical Gazette, 1837-8, N. S. vol. ii. p. 417.

Chronic Metro-Peritonitis, Diarrhœa, extreme Emaciation, &c. — Death at the end of seven months.— Universal Adhesion of the Pelvic Viscera, Ilium, &c. with Tubercular Deposit in the adhesions.—Atrophy of the Heart, &c.

Lucy Vaughan, aged 33, had enjoyed in general good health, until May 1835, when she aborted, at the end of the third month of utero-gestation. Three weeks subsequently, she was attacked by severe hæmorrhage from the uterus, apparently in consequence of mental emotion excited by her husband breaking his leg. After this, she was the subject of much fatigue and exposure to wet and cold, from visiting her husband almost daily, in an hospital, nearly three miles distant from her home; and the hæmorrhage, in a less degree, continued. She suffered from sickness, great debility, and general indisposition. She lost flesh rapidly, had considerable pain and tenderness in the region of the lower belly, and noticed that there were "lumps" forming in this situation.

After continuing more than four months, the hæmorrhage subsided.

Nearly six months after the abortion, she was admitted into the Westminster Hospital, November 23, 1835, under the care of Dr. Roe. The debility and emaciation were at this time very far advanced; the features were sharp, the countenance very pale, and almost bloodless. The lightest forms of food produced sickness; there was flatulency, and sometimes constipation, but oftener diarrhœa, attended by tenesmus; the evacuations were grumous.

There were much fulness and tension of the abdomen, with exquisite tenderness to the touch, especially in the hypogastric region, on the left side of which, three hard lumps, of the size of walnuts, were felt under the abdominal parietes. The os uteri, examined by the touch, was situated rather low in the vagina; it was open; the inner lips rugose; the cervix and body felt as if engorged and thickened; and upon elevating the uterus the motion was communicated to the hypogastric tumors. Various remedies were resorted to, but without much advantage. She experienced, perhaps, most relief from counter-irritation applied to the abdomen, in the form of epithems of turpentine.

The emaciation advanced; she ceased to take any thing except a little brandy and water, and gradually died exhausted, December 27th, about seven months after the abortion.

Forty-eight hours after death, I made the

Dissection.—There was a moderate number of tubercles in the lungs. The heart was very small. The liver was healthy; the gall-bladder was large, and contained one large and two or three small biliary calculi.

The large omentum was stretched over the intestines, and adhered firmly to the pelvic viscera. The convolutions of the ileum, situated in the pelvis and in the lowermost part of the abdominal cavity, were matted to each other and to the pelvic viscera, by masses of imperfectly organized lymph, mixed with tubercular deposit. The largest of these were seated towards the left side of the hypogastrium, and had given rise to the tumors detected during life: they had evidently obstructed the canal of the intestines. Above the seat of this disease, the intestinal canal was dilated with a fluid, yellow, feculent matter, whilst the large intestine was considerably contracted. The mucous membrane of the intestinal canal was very vascular, softened, and in one place ulcerated.

The mesenteric glands were large and softened. The ovaries and Fallopian tubes were matted around the uterus by lymph and tubercle. The tissue of the uterus was pale and dense, but presented some ecchymoses, and the cervix and os uteri were very much altered by softening and ulceration.

The kidneys were pale; that on the right side was very small; its pelvis and ureter were considerably dilated, perhaps in consequence of the compression of the latter by the masses of lymph in the left side of the pelvis.

Remarks.—This case was evidently modified by the tubercular diathesis, and it may be perhaps questioned how far it can be regarded as a puerperal case; there having probably been sufficient cause for its production in the "exposure to wet and cold," &c. As, however, the uterine hæmorrhage which supervened on a recent abortion had not ceased when the local signs of metritis appeared, I think we are borne out in connecting it with the abortion; and it certainly has sufficient analogy

to the other cases to justify its introduction here.

Andral, in the "Clinique Médicale," under the heads of "Chronic Peritonitis" and "Partial Peritonitis of the Pelvic Cavity," has two cases to which I may allude, as having some analogy to the preceding *. Dr. Black likewise describes a case, of which the following is a mere sketch:—

A lady, aged 39, after a severe labour with her third child, had an attack of puerperal fever, which left behind it a troublesome pain in the right iliac region, and other symptoms. At the end of about a year and a quarter she again became pregnant, but aborted at the fourth month. Her symptoms, after this, were all increased; there was great exhaustion from colliquative sweats, and there were two tumors in the right hypogastric region, which afforded a crepitus to the touch, and which were taken for abscesses.

She died two years and four months after the third delivery. Upon examination, adhesions of the omentum, of a portion of the intestines, and of the whole of the pelvic viscera, were found. There was great disease, with sphacelus of the uterus, bladder, and rectum; there were no abscesses, but two pints of serum in the peritoneal cavity †.

Case V. — *Instrumental Labour, with the Extraction of a Dead Fœtus, followed quickly by inflammatory Symptoms. — Chronic Metro-peritonitis, with Diarrhœa per Vaginam, and extreme Emaciation. — Death at the end of the fifth Month. —Extreme Adhesions of the pelvic Viscera and Small Intestines; with Ulceration of the Os Uteri, and free Fistulous Communications of the Ileum and Rectum with the Vagina.*

Mary Horniblow, aged 36, was delivered, with the aid of instruments, of a child which was stated by her accoucheur to have been "dead in the womb three weeks."

Soon after her confinement, she was seized with pains in the lower part of the abdomen, and she was seen by a physician. The treatment consisted principally of the application of leeches to the hypogastric region. The pain was partially relieved, but diarrhœa came on, attended by rapidly advancing emaciation, and prostration of the vital powers.

She was admitted into the Westminster Hospital, under the care of Dr. Roe, January 26, 1836, about four months after her delivery. The emaciation and debility were then extreme; the appetite was very much impaired; only little pain was excited upon making pressure over the abdomen.

Diarrhœa was almost constant; the evacuations were of an unhealthy, watery character, and the nurse reported that they were passed, at least partially, by the vagina. It was further found that no enemata could be administered.

Upon exploring the vagina with the finger, I found considerable roughness and irregularity of its upper and posterior surface, giving the idea of ulceration; and the os uteri was flat, jagged, and irregular. I failed in detecting any fistulous communication between the vagina and rectum, although, with this view, the two canals were explored together, with the right and left forefingers.

The treatment adopted was of a restorative and tonic kind, embracing quinine, wine, &c.; and was combined with a variety of remedies directed against the diarrhœa, including opium, logwood, catechu, kino, starch, lime-water, chalk, strychnine, sulphate of copper, nitrate of silver, &c. The diarrhœa, however, was irrestrainable by these various remedies, exhaustion proceeded, and she died February 27th, about five months after parturition. Thirty hours after death I made the

Dissection.—The brain and thoracic viscera appeared healthy, some slight adhesions of the left pleura excepted. The heart was rather small, and weighed $7\frac{3}{4}$ ounces (Av.) The liver, spleen, stomach, and upper half of the intestinal canal, were quite healthy. The whole of the pelvic viscera, with several convolutions of the ileum and the cœcum, were matted together by organized false membranes, which were particularly strong and numerous around the right ovary, Fallopian tube, and that portion of the ileum situated most deeply in the pelvis.

The body of the uterus was firmly fixed against the sacrum, and compressed the rectum in this situation. The mouth and neck of this organ were

* Clinique Médicale, by Spillan, 1836, pp. 1003 and 1009.

† Clinical and Pathological Reports, Newry, 1819, p. 157.

extensively destroyed by ulceration. The mucous membrane of the vagina was also in a state of sloughy ulceration. In the upper and posterior part of this canal were three rather large fistulous openings, which communicated with the most depending portion of the knuckle of ileum already referred to; there was likewise a smaller fistulous opening into the rectum. The small intestine above the fistulæ retained its normal appearance and capacity, or, if any thing, was somewhat dilated; whilst that part of the ileum situated below these openings, and which was involved in the adhesion, was contracted to a very small calibre, and was decidedly atrophied. The whole of the large intestine participated in this state; was lined with a thick viscid mucus, and had evidently not afforded a passage to the fæces for a considerable period. The lowest part of the rectum contained a mass of old feculent matter, the size of a small egg, and of a remarkably dry, hard, and white character. The kidneys were very pallid, especially in their cortical portions*.

Remarks.—This case appears to me to be one of great interest. The fistulous communications, however, were inferred rather than proved to exist during life; and there can be no doubt, I think, but that their orifices, though undiscovered by the touch, would have been detected had the speculum been employed. Such a proceeding, however, appeared to be altogether forbidden by the exhausted state of the patient.

Had the orifices been detected, I presume that every practitioner would have concluded that they all communicated with the rectum, and not with the ileum, particularly as it might have been ascertained that one of them did so. It becomes an interesting question as to what would have been the result of the closure of the fistulæ under such an idea; had the general health of the patient permitted the surgeon to entertain such a proposal. Such was the degree of contraction of that portion of the ileum seated between the cœcum and the fistulous orifices, that I can scarcely doubt but that a fatal obstruction of the bowels would have been the result, had any of the operations which have been proposed with this view succeeded in closing the fistulæ. I am not aware that a case of ileo-vaginal fistula has previously been recorded, and its possibility should be borne in mind, especially by those who are devoted to plastic surgery. In this case I think there is strong reason for believing that both the fistulous orifices and the metro-peritonitis were the result of the instrumental delivery, which, however, was most probably a last resource.

There is a case related by Mr. Glen, in the Medical Gazette*, of chronic metro-peritonitis following a first labour attended with impaction for many hours, which was complicated with a fistulous communication between the rectum and the bladder, and in which the fæces were passed mixed with the urine. This case proved fatal in about two years and a quarter, and has many points of analogy with the one just related.

Mr. Davey, of Portsea, has likewise related a remarkable case of peritonitis, involving chiefly the hypogastric viscera, though not stated to have been puerperal, in which, during life, the fæces were passed by the vagina, in consequence of a fistulous communication between the cœcum and the uterus itself.†

Concluding Remarks.

The number of instances before us does not admit of many observations respecting the causes, symptoms, prognosis, and treatment of these insidious cases, with the exception of such as will be immediately suggested by their perusal. There is one question, however, connected with the pathological nature of the abscesses which existed in three out of the five cases, upon which I feel disposed to make a few remarks.

Are we to regard these as of the nature of those secondary abscesses which are of such frequent occurrence in the progress of puerperal fever, especially where that is associated with an uterine phlebitis?

I will not take upon myself to express a decided opinion that they essentially differed from such in their origin, but, as in all these examples, the abscesses communicated with the pelvic cavity, I cannot but suspect that the

* See an abstract of this case as reported to the Westminster Medical Society, in the Lancet, vol. 2, 1835-36, p. 90.

I very much regret that in several of the preceding cases the uterine and iliac veins were either not examined, or if examined, that their condition was not recorded.

* Vol. 18, p. 801.

† Lancet for 1835-36, vol. 2, p. 236.

deep-seated pelvic tissues had received some direct injury in the first instance. This was probably of the character of an insidious inflammation, communicated from the uterine veins or pelvic peritoneum; in addition to that morbific influence which they probably received from the circulating fluids, in common with the rest of the system, and which has been so ably shewn by Dr. Ferguson to be at least the probable cause of the various phenomena of puerperal fever.

As another characteristic I may point out that the abscesses in the three cases were developed at a much later period than that in which I apprehend secondary abscesses ordinarily form in puerperal fever; further, in all these cases the symptoms of previous uterine or peritoneal inflammation were but slightly, and in one case (3) not at all present.

In the two first cases the abscesses began to form about the end of the fourth or fifth week, and in the third, two months after delivery*. Diarrhœa was a more constant feature of these cases than abscesses, and was present in all of them but the first. The excessive emaciation I have already referred to; it was present in every case. The period after delivery or abortion at which death took place was in the 2d, 4th, and 5th cases, at the end of the third, fifth, and seventh month respectively, whilst in the first case it did not occur until the end of three, and in the third until nearly the end of three years.

In concluding these observations it will be almost superfluous to point out what appears to be the bearing which the cases I have detailed have upon practice. They demonstrate, I think, in a very forcible manner, the necessity there is, in all puerperal cases, for the practitioner to be most anxiously alive to the importance of the least grade of inflammation in the uterus or its appendages, and most sedulous in the employment of the means necessary for its removal. With the object of enforcing this practical maxim, even more forcibly than it is already acknowledged, and as illustrative of the observations of Dr. Ferguson, with which I set out, I trust that these cases and observations, though hastily put together, may not be deemed altogether unworthy of attention.

Retreat, York, Dec. 24, 1839.

* The most definite information that I have met with respecting the frequency of secondary abscesses in puerperal fever is that given by M. Tonnellé (Archiv. Gén. and Ed. Med. and Surg. Journ. vol. 34). Out of 222 cases examined by M. T. 14 presented deposits in numerous muscles; 10 in the cavities of joints; and 6 in the cellular tissue of the pelvis. I am not aware, however, that any of these six cases were of the chronic character of those described in this paper.

ON THE TREATMENT OF TRANSVERSE FRACTURES OF THE PATELLA.

To the Editor of the Medical Gazette.

Sir,

Although, as a general rule, the true surgeon is known by his being able to dispense with those numerous ingeniously complicated contrivances with which the shops of our instrument-makers abound, rather than by adding to such list any fresh contrivance of his own, still there are cases for the successful treatment of which peculiar instruments become absolutely necessary. It is to one of this class of cases (transverse fracture of the patella) to which I wish to direct the attention of your readers.

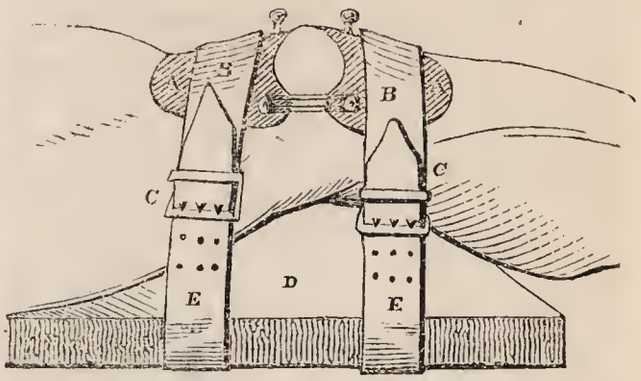
The treatment of this accident is generally attended with much uneasiness and annoyance to the surgeon, as well as to the patient, in consequence of the extreme difficulty of maintaining in apposition the fractured portions of bone, so as to admit of a firm union taking place between them. It is true that we occasionally see a case in which the fractured portions have so little tendency to become separated, that we have merely to relax the quadriceps by placing the patient on Earle's bed, and to adopt some slight contrivance for keeping the limb quiet; leaving the case entirely to nature. But unfortunately for all parties, such cases are rare, and we are therefore compelled to adopt some mechanical means to steady the lower fragment, and bring down the upper one into contact with it, and to maintain such contact until union shall have taken place. To effect this object, innumerable contrivances have been proposed; the latest and most ingenious of which is the invention of Mr. Lonsdale, and is described by him in vol. xvii. p. 83, of your journal, and at p. 427 of his useful Treatise on Frac-

ture; and has been used successfully in severally cases, at the Middlesex Hospital. This instrument is, however, liable to several objections. Firstly, it is rather, perhaps I might say, complicated; and, as a necessary consequence, is, secondly, very expensive: but it is, thirdly, liable to a much more serious objection than either of the former—that is, the plates which secure the fractured bone, being attached to the board which is placed beneath the limb, by means of unyielding rods and bars of metal, are incapable of accommodating themselves to that slight but incessant change of position to which the limb, in common with every part of the living body, is liable, and which it it is found impossible entirely to prevent. The consequence is, that at the end of twenty-four hours the relative position of the instrument and the limb is no longer the same, and the whole apparatus requires to be readjusted. In an hospital patient, who is visited at least twice every day, this is perhaps a matter of no great moment; but in a private patient it would be far otherwise.

Having often been a witness of these inconveniences, a mode occurred to me, which, while it possesses the great advantage obtained by the use of Mr. Lonsdale's instrument (that of avoiding all circular constriction of the limb), is free from the objections above spoken of.

This apparatus (if such it may be called), which I shall now describe, I have, through the kindness of Mr. Arnott and Mr. Tuson, had an opportunity of trying in four cases, at the Middlesex Hospital, during the time I filled the office of house-surgeon to that institution; in all of which it was found capable of effecting conveniently all that could be desired by any one who did not expect to obtain bony union.

The apparatus consists of two plates of metal (A, A, vide drawing), japanned iron or brass, of a somewhat semi-lunar form, about 2½ inches from the upper to the lower border, and about 4 inches from side to side. The plates are curved, so as to correspond as nearly as possible to the form of the parts on which they are to be placed. Those I used were forged according to a pasteboard model, which was obtained by bandaging a piece of this substance, softened in hot water, on the knee (not the injured one), and allowing this to remain until dry. Small holes are drilled near the edge of the plate at its sides, and near the corner on each side is a stud, projecting about half an inch. A piece of strong webbing (B B), 2 inches broad and 7 long, with a buckle (C C) at each end, is strongly stitched to each plate. A piece of board (D), about 15 inches long, 10 broad, and 1½ thick, and two pieces of webbing (E E), 2 inches broad and 2½ feet long, with a piece of tape, complete the apparatus. In



order to apply it, the patient is placed in the position constantly adopted in cases of this kind: the board is then tied under the knee, having the two long pieces of webbing passed beneath it. A long narrow pillow is placed between the limb and the board. The iron plates are then placed, the one above the other, below the fractured portions of bone; a piece of wash leather or a few folds of lint protecting the skin from contact with the metal. This should be somewhat larger than the plates, in order to prevent its edges injuring the skin. The straps which pass beneath the board are then brought up and passed through the buckles attached to the ends of the strips which pass over the plates. The limb is thus secured by being pressed between the plates above and the board beneath; and in consequence of the board being much broader than the limb, its sides are quite free from pressure. The limb being thus fixed, the next object is to bring the fractured portions of bone together; and this is readily accomplished by winding a piece of tape round the projecting studs attached to each plate.

An apparatus of this kind may be constructed at a very trifling cost—not more than four or five shillings, at the utmost—and might in any case be prepared for use as soon as the case would admit of its application; for I believe the cases are extremely rare in which it would be proper practice to apply any

apparatus immediately after the occurrence of the accident.

I subjoin the four cases, from my notebook, in which this plan of treatment was adopted, and as I am aware that the history of such cases possesses but little interest, I have endeavoured to be as brief as possible.

Case I. — A young man, admitted February 24, 1838. As there was considerable swelling and inflammation, the apparatus was not applied until March 5th. It was kept on until April 11th, when it was finally removed, and the knee done up with warm plaster and pasteboard splints, so as to prevent undue flexion of the joint. The patient did not leave the hospital until May 15th; at which time, and, indeed, for some time previously, he walked quite strongly. The instrument was, in this case, at one time tried with the upper plate only ; but as it was found difficult to keep the lower portion of bone sufficiently steady, the lower plate was again applied. The apparatus once remained on for nine days, without requiring the least adjustment.

Case II.—A man admitted March 6, 1838. As there occurred little or no swelling, the apparatus was applied six days after the accident, and was kept on until April the 24th. During the latter part of the time he had been allowed to lie on an ordinary bed, as he complained much of Earle's. The fractured portions were very closely in apposition. The knee was done up with three strips of pasteboard and rollers, and he was shortly after allowed to move about the ward on crutches. He was dismissed May the 8th.

Case III. — A man, admitted May 14, 1838. He was brought in immediately after the accident, and as there was scarcely any tumefaction, and so little separation of the fragments that crepitus could be readily produced, I thought it was a favourable case to try the immediate application of the apparatus. This was accordingly done ; but, in about three hours the knee became so much heated and swollen that I was obliged to remove it entirely, and order leeches, &c. By the 23d, the swelling had so much subsided that the apparatus was reapplied, and kept on for about five weeks. For the last week or so, he was allowed to be on an ordinary bed, with the limb in a straight position ; for, like the preceding patient, he found Earle's bed very uncomfortable. The union, in this case, was more perfect than in either of the former cases. The two fragments of bone were perfectly on the same level, and in very close apposition. The knee was done up, and he was allowed to move about the ward with the same precautions used in the former cases; and on July 3d he left the hospital.

Case IV.—A female of vast dimensions, weighing 20 stone, admitted August 27, 1838. The fractured portions of bone were widely separated. As no great degree of inflammation ensued, the apparatus was applied seven days after her admission. Considerable difficulty was at first experienced in bringing down the upper fragments, but in the course of a few days this was accomplished, and the case afterwards went on very well; but I do not know the precise period when the apparatus was removed, as I had previously quitted the hospital.

These cases are, I think, sufficient to prove that fractures of the patella may be successfully and conveniently treated by the mode above described; and as the apparatus itself is so simple and so readily procurable in any part of the country, you perhaps may deem the foregoing account of its construction, application, and merits, as worthy of a place in your valuable journal.—I am, sir,

Your obedient servant,

J. Henry Rogers,
Late House-Surgeon to the Middlesex Hospital.

77, Newman-Street, Jan. 8, 1840.

CASES ILLUSTRATIVE OF THE THILENIAN OPERATION; *With Observations.*

By Edward Weight, M.R.C.S.
Surgeon to the Wokingham Union, Berkshire.

(*For the Medical Gazette.*)

Having always taken a great interest in the treatment of the deformities which are incident to the human figure, and being pretty intimately acquainted with the various mechanical and physiological means that have been resorted to in the cure of these affections, my attention was very naturally attracted to the cases which Dr. Little, from time to time, printed in a contemporary periodical. As soon as that gentleman's book

issued from the press, I procured a copy of it, and having satisfied myself of the soundness of most of the principles promulgated in it, I determined to prove their validity upon the first cases of this affection that I should encounter.

Having taken careful notes of the cases which I have treated, I beg to transmit a history of the three first, for publication in the MEDICAL GAZETTE. I have been rather minute in detailing all the little difficulties and hindrances which I met with, as well as the few untoward symptoms which arose. My plea of defence for this perhaps tedious minuteness is the fact that the cases which have hitherto been published have been too barren of description, and the reader has consequently not been admitted sufficiently behind the scenes. Thus too favourable an impression of the facility of the operation, and the celerity of the cure, has been conveyed to the public.

The division of tendons, which the genius of Thilenius first devised as a remedy for those painful maladies, is so simple and easy of execution, that its practice must become general; but this desirable result will only be impeded by keeping in the shade the difficulties and delays which inevitably occur in the management of these deformities, whether they arise from the nature of the case, or the necessary inexperience of the surgeon.

The members of our profession are much indebted to Dr. Little for his exertions in diffusing a knowledge of this operation, and for improving the mode of performing it. It is manifest that his writings and conversations in Germany have had no little share in raising the attention of the highly intellectual practitioners of that nation, and through them, of Europe in general, towards the labours of his friend, Stromeyer.

I cannot but admire the clearness and impartiality of the summary which this author has formed of the views and opinions of his predecessors in this now attractive field of inquiry. His observations and reasonings naturally arrange themselves into four groups. The first group relates to the pathology of these affections; the second refers to their analogy; the third contemplates the different therapeutic agents employed; and the fourth seeks to establish the relative merits of the several contributors to our present knowledge of the subject.

1st. Dr. Little gives a very full account of the dissections of club-feet, performed by Scarpa, Joerg, Clossius, Colles, Mackeever, Palletta, Delpech, Cruveilhier, and Loeb, and after much lucid dissertation, he adopts, with slight modification, the opinion of Scarpa, "that of all the tarsal bones, the astragalus had suffered the smallest degree of displacement; which alone proves the possibility of curing talipes varus." The determination of this (says Dr. Little) is of infinite moment, the astragalus being the most important tarsal bone, and the only one (in the normal state) entering into the composition of the ankle joint."

I must concur with him in thinking that the integrity of this joint being ascertained, renders the prognosis of the case much more certain. The comparative distortion of the several tarsal articulations, however, appears to me to be a matter of little or no moment. These dissections acquaint us with the important truths, that the form of the bones, the extent of the articular surfaces, and the length of the ligaments, may all be changed by the morbid or therapeutic application of forces. They also point out an essential character of this class of deformities, namely, the healthy condition of the substance of the implicated bones. The occurrence of such a pathological condition of these structures as mollities ossium, or any other, indicates that the malady belongs to a totally different class of distortions. The concurrence of two such affections in one subject may, however, be very well imagined, and after a period, when the morbid action affecting the intimate structure of the bones shall have become dormant, the application of the remedies which are efficient in the treatment of simple club-foot may in many instances become proper, in removing the obstruction resulting from the combined maladies.

A perusal of Larner's case, which I have related in the sequel, will also shew, by the diminished development of the foot in point of size, that the nutrition of the affected structures is much retarded. This is a circumstance which obviously causes delay in the perfecting of the cure.

The dissections quoted by Dr. Little afford highly satisfactory evidence of

the nature of the morbid changes that have befallen these parts. I think it, however, but an act of justice, here to introduce from the writings of Mr. Sheldrake, a short extract, which will tend to shew what knowledge of this branch of pathology was possessed fifty years ago, by those who then paid most attention to the subject. "It is well known, (states this writer), that the capsular ligaments are so proportioned to the joints of which they form a part, that they will allow the motion of the joint to the full extent of its natural action, but no more. In some of the cases I have related, it was perceived that as the gastrocnemii muscles retracted, they drew the os calcis upwards, and at the same time forced the circular head of the astragalus forward till it became the most projecting parts of the dorsum of the foot. The alteration in the form of the feet took place so very gradually, that the astragalus, in moving forwards, stretched the capsular ligament, and carried it before itself to the full extent that the distortion of the foot occasioned it to go. This gradual extension of the ligaments took place so slowly that no pain was produced. When the foot passed into the deformed state, the extensor muscles, which slide over the foot to the toes, increased in length at the same time that they lost their power." There were three deviations from the natural state of these articulations, which united to produce the deformity; first, a deviation from the natural arrangement of the bones; this was the basis of the deformity, although the bones were quite passive: second, the relaxation of the ligaments; and third, a deranged action of the muscles, which was the direct cause of all the distortion.*

In the drawing attached to the letter-press the trochlea of the astragalus is represented as projecting on the dorsum pedis, so that Mr. Sheldrake evidently meant that articulating surface when he said the "circular head." The following passages exhibit the view he had of the condition of the muscles.

"The retraction of the heel is occasioned solely by the contraction of those muscles which form the calf of the leg. This was the sole and active cause of the whole defect, and the cure was effected first by producing so much extension of those muscles as increased their length four inches, and their bulk was increased so much as to add one inch and a quarter to the circumference of the limb. No effect like this has been produced by any other person in this country. I derived my notion of the remedial means by reflecting upon the superstitious practice of some devotees in India.

"Captain Turner, in his account of his embassy to the Court of the Tesho Lama of Thibet, makes the following statement regarding one of these enthusiasts.

"The complete term of his first penance being expired, the next he undertook was to hold his hands, locked in each other, over his head, the fingers of one hand separating those of the other, for the same term of twelve years. When I saw him at this place in 1783, he rode on a pie-bald "tangum" horse from Boutam, and wore a satin embroidered dress given him by Tesho Lama, of which he was not a little vain; he was robust and hale, and his complexion, contrasted with a long bushy black beard, appeared really florid. I do not suppose that he was then forty years of age. Two gosseins attended him, and assisted him in mounting and alighting from his horse; indeed he was indebted to them for the assistance of their hands upon every occasion; his own, being fixed and immoveable in the position in which he had fixed them, were of course useless.

"The circulation of the blood seemed

* Mr. Bransby Cooper, in the "Philosophical Transactions" for 1829, gives an account of the dissection of the foot of a Chinese woman. From this document it appears that the changes produced in the shape of the bones is the very reverse of that which occurs in talipes. Mr. Cooper remarks, that the position of the os calcis is remarkably altered; instead of the posterior projection, which usually forms the heel, a straight line is preserved in this direction. The posterior process into which the tendo Achillis is inverted, touches the ground, and supports the weight of the body. The articular surface of the os calcis, in connexion with the cuboid bone, is about half an inch anterior to, and two inches above this point; whilst the astragalar joint is behind, and somewhat below the calco-cuboidal articulation; consequently the direction of the os calcis, in its long axis, instead of being from behind forwards, is from below upwards, with a very slight inclination forwards. The most prominent parts of the instep are the round head of the astragalus, and the cuboidal joint of the os calcis. From this the remaining tarsal bones slope downwards at nearly a right angular inclination to join the metatarsal bones, whose obliquity is still downwards, until they rest upon the phalangeal extremities. It is to be regretted that Mr. Cooper has given no account of the articular surfaces, of the condition of the ligaments, or of the form of the individual bones.

to have forsaken his arms; they were withered, void of sensation, and inflexible, yet he spoke to me with confidence of recovering the use of them, and mentioned his intention to take them down the following year, when the term of his penance would expire. Other gosseins assured me that it is practicable to restore withered limbs, thus circumstanced, to perfect use.

" Captain Turner doubted the fact of its being possible to restore limbs that were so circumstanced to perfect use; but as the course of my reading enabled me to know that this very practice had existed in India for centuries, I believed that what these gosseins told Captain Turner was true. I assumed that the feet of my patients had by some means passed into the same state as the arms of this devotee; and as he could, whenever he pleased, recal them to the same state of useful perfection as they were formerly in, I inferred that I might likewise be able to restore my patients to the use as well as the natural form of their legs."

There is no doubt that there was a very correct analogy between the two cases, especially as regards the atrophied state of the muscles, and this was, in fact, abundantly proved in the signal success which attended Mr. Sheldrake's practice. I think it fairly appears, from a perusal of these extracts, that the pathological knowledge of the mechanicians approaches very nearly to our own, and that their acquaintance with the plasticity of these structures as regards the application of external pressure and muscular action, supplied them with sufficient data from which to devise all the means of cure, save one, which we now possess.

2dly. With respect to the etiology of these affections, the case of Attoe would tend to corroborate the theory which seems to unite most suffrages in its favour; namely, that the proximate cause is a disturbance of the equilibrium of antagonist muscles. This effect may obviously be produced by paralysis of one set of muscles, which thus become the passive cause of deformity or tonic spasm in another set, which constitute the active cause. Both these conditions may be supposed to exist in the antagonist muscles, and thus conspire to produce one result, the undue and permanent flexion of one or more joints.

The idea of pressure upon the fœtus by the uterus, as a cause of congenital deformity, being unsupported by a single fact, can require no refutation. It is a mere hypothesis, and the burthen of proof lies with those who make the assertion.

The injurious influence of walking in aggravating distortion of the feet seems to be a principle exemplified in the three cases now presented to the public, and in fact but a corollary of the larger proposition, that force has a modifying power over the form of these structures.

3dly. Mr. Sheldrake was evidently acquainted with the two principles of therapeutics which have been so successfully put in practice in overcoming deformities, respectively by Dr. Edward Harrison and Mr. Hale Thomson. I mean, 1st, the application of external force; and 2nd, the calling into active exercise the unemployed muscles. The wonderful effects produced in subduing deformities of the spine by these two methods, the numerous cases treated by each well illustrate. In the management of the severer forms of talipes, these methods, however, were met by insurmountable obstacles. The greatest of these arose from the impossibility of elongating the contracted muscles and tendons. It was reserved for Thilenius to indicate the division of tendons as the means of reaching this end. This is the cardinal principle of the operation, which ought to be referred to this great man, as its parent and nomenclator. If this curative process is to be designated by any name, what title can be so proper as one derived from the name of its originator? I have for this obvious reason ventured in this paper to call it " the Thilenian operation." Little and Stromeyer both claim our gratitude for the improvements which they have effected in the mode of incising the tendons, and which take away the greater part of its severity.

The history of my cases bears evidence of the necessity of attending to the form of the knife employed; and I am happy to add my testimony to the great efficacy and nice adaptation of Dr. Little's tenotomes to the purposes in view.

In one of my cases (Over's) I made no scruple to move the joint freely, after the division of the tendo Achillis, and did not perceive any ill effects to arise from it.

The position of the patient during the

section of the tendons, I agree with Dr. Gustavus Krauss in thinking a matter of some importance. It will be seen that, in all the cases, I laid the patients in a horizontal posture. For the first week, some attention is necessary to the diet of the patient. The antiphlogistic regimen should be enforced. The prudence of this precaution was evident in the three cases which I have related.

Dr. Krauss is perfectly right in stating that the mechanical part of the treatment of club-foot is by far the most difficult. I cannot say that I feel perfectly satisfied either with Stromeyer's board or with Little's modification of Scarpa's shoe. In this respect our present orthopœdic surgeons might derive useful hints from their predecessors, the mechanicians. Dr. Krauss is very free in condemning the apparatus of Little and Stromeyer; but after saying, "I use for the cure of club-foot an instrument of my own, which has not been made without much trouble and repeated changes; and though it may appear complicated on the first appearance, I trust that in its effects it is the most simple that has yet been invented;" he totally forgets to give any description of his own. It is to be hoped that Dr. Krauss will be better advised in future, and that he will be informed that secret remedies of all kinds are contravened by an important canon of British medical etiquette.

4. Club-foot is so glaring a deviation from the normal state of the limb, that it must have drawn attention and acquired a name even in the rudest stage of society. We accordingly find it mentioned under the same head as dislocations, in the works of Hippocrates and Galen. But we cannot reasonably expect any enlightened views of the pathology of these affections from the meagre anatomy and jejune physiology of the ancients. Dr. Little, therefore, did but comply with an old custom, in tracing up the pedigree of this class of infirmities to the physician of Cos. It was not till the age of the Hunters that the true nature of talipes began to be known: and we have seen the amount of success which has, since their day, attended the methods of treatment adopted by the mechanicians.

Researches into the early history of our profession, and into the primitive efforts of intellect to solve the enigmata which nature displays to the wondering student in this most interesting department of her history, constitute a subject of much philosophical interest, and of which the pursuit is better adapted to the learned leisure of the scientific inquirer, whose happier lot is cast in the neighbourhood of hospitals, museums, and extensive libraries, than to the busy life of country practitioners, whose time is divided between the saddle and the sick-room.

As no debt is so sacred as the gratitude which is due from society to the man of genius, who, enlarging the bounds of our knowledge, supplies us with new levers to promote the spread of happiness or to resist the encroachment of pain, I shall in this place contribute my mite of exertion towards placing on the brow of Thilenius the civic crown which is but the just meed of his extraordinary merit.

We find no traces in the writings either of the cotemporaries or of the predecessors of Thilenius, of the important physiological fact (that the lymph secreted from the divided ends of a tendon is so yielding in its quality, and copious in its quantity, as to permit the elongation of the tendon to any extent desired) which he was the first to discover, and to apply as a therapeutical agent. The curious ratiocination by which he arrived at the important conclusion of recommending the division of the tendo Achillis, as a means of curing talipes, is unfortunately not preserved in any known records; but the simple fact shews clearly how just were his views of the pathology of talipes.

Instances of the wounding and lacerating of tendons occur very frequently in the medical works which have appeared since the revival of letters. Amongst the ancients, who did not know the difference between nerves and tendons, of course no useful information can be found. Guido, who contended for the propriety of sewing up divided ruptured tendons, quotes the following passage, from Avicenna, in support of his argument:—"Si autem disrumpatur a latitudine nervus, tum necessarium est sucre ipsum, et si non, non conglutinatur." In concluding his reply to Gulielmus e Solicito, Guido observes—"Vidi et audivi in multis, nervos et tendines incisos, et eos ita restauratos suturâ et aliis auxiliis, ut postea incredibile videretur ipsos fuisse incisos."

Johannes Veslingius, in an epistle to Fabricius Hildanus, has the following passage: — "Vidi in parentis mei amanuense Othone Lofero tendinem a gastrocnemiis et soleo musculis conflatum paulo supra calcis os dissectum suturis aliquot a chirurgis conjunctum." Also, "in Arabe item cui acinace tendo a tibiæ extensoribus constitutus transversum sub patellâ genu vulneratus, similem in modum a Tunitario chirurgo adducebatur. Detestabar hominum audaciam, sed felix successus et vix notabile a peractâ curatione detrimentum, timoris mei vanitatem arguebant."

In the Philosophical Transactions for May 1699, Mr. William Cowper, who was the Astley Cooper of his day, gives the following interesting account of a case in which he united by suture the divided ends of the tendo achillis. The patient was a man thirty years old, who had a total division of this tendon about three fingers' breadth above the os calcis; the superior part of the tendon being drawn up at least two inches from the inferior. Mr. Cowper divided the integuments which surrounded each end of the tendon. After giving a description of the mode of applying the sutures, he says, "on the fourth day of the operation the dressing on the wound appeared very wet with synovia, or gleeting from the tendon. On the sixth day the matter became thicker, and still thicker on the eighth, the gleet gradually diminishing. About this time the two ends of the tendon were not a little dilated, and a white slough appeared on it, towards the upper part of the wound. Some time after the slough cast off, and the two ends of the tendon appeared overspread with a fungous flesh. On the tenth day, one of the threads of the suture being loose, was extracted, and three days after the other was taken out. I was afterwards obliged to apply mild escharotics, to diminish the fungus on the tendon, and in less than thirty days the patient began to walk about." If we translate the obsolete technical language of that day into the phraseology of our own, we shall perceive that the writer was on the eve of discovering the important physiological principle which is the basis of this operation. We here recognise the whole process of the renewal of parts; we witness the secretion of lymph, and its gradual conversion into granulations, and those so luxuriant as to require escharotics to restrain them. It required but a step, an accident perhaps, to reveal to him the elastic property of this new substance. This intelligent writer and intrepid surgeon had not, however, the slightest suspicion of the existence of any such property.

Heister, in the 2nd volume of his Surgery, alluding to the division of tendons, says, "Borelli describes the amputation of a mortified part in the tendo achillis, and states that after the wound was healed the patient could walk without any impediment, the tendon being renewed or filled up again with a similar substance." After relating another case of a similar kind from the writings of Garengeot, Heister observes, "the symptoms attending a total division of the tendon are much milder than those of a punctured or half-divided tendon, and the pains and convulsions attending this latter injury may be removed by cutting the tendon quite asunder;" and he finally comes to this sound conclusion, repudiating the meddlesome surgery of which Cowper had been guilty:—"But that a wounded tendo achillis may be also conjoined, like many other tendons, without making a suture, may be concluded from analogy, and the foretold cases of Garengeot and Borelli; provided the foot be bound up in an extended posture, so as to make the divided ends of the tendon meet each other."

Ledram, in his work on surgery (published in 1749) observes as follows:—"The frequent experience I have had of the re-union of tendons, both broken and cut, even of the tendo achillis, which has been procured only by the proper placing of the part and a suitable bandage, sufficiently convinces me that the suture of tendons is unnecessary."

Notwithstanding this enlightened opinion of Ledram was extensively circulated in England by means of Gutaker's translation, the injurious practice of uniting tendons by suture continued to be practised in this country for many years afterwards; and we find Mr. Joseph Warner, surgeon to Guy's Hospital, thinking it necessary, as late as the year 1784, to contend in his surgical essays against the practice.

The celebrated history of a case of ruptured tendo achillis occurring in his own person, published in the Physical Journal of 1750, and afterwards pub-

lished in a complete edition of his works in 1781, by Monro secundus, affords an amusing example of the almost superstitious dread which was entertained of the effects of injuries to tendons. This fear had its origin doubtless in the severe tetanic symptoms which occasionally occurred after injuries of these textures.

By contemplating the ignorance of the contemporaries of Thilenius, we shall be better prepared to do honour to this eminent philosopher, who, in this particular province, so far outstripped his most accomplished confrêres. Dr. Monro's case affords also an illustration of the redundant secretion of the plastic succedaneum which occurs between the extremities of the divided tendon, and which, one would think, ought to have suggested to an inventive mind the probability of its being extensible. "The void between the tendons became insensible in a few days, except that a softness was felt there more than any where else; but this part turned gradually thicker and harder, till a knot was formed in it, which one, in feeling through the integuments, would have thought to be a piece of cartilage, as large as a middle-sized plum." Not a trace of the important theological fact, the cardinal principle of the Thilenian operation, is to be met with in the writings of the Monros, the Hunters, or any other medical men, before the time Thilenius published his successful case in 1784. Since that period, though several surgeons have undertaken the operation, no improvement upon the system of Thilenius was really accomplished, until the promulgation of the modifications of Stromeyer and Little, which have tended so greatly to diminish its severity and to ensure its success. The history of the operation performed by Mr. Wm. Cowper, and described by him in the Philosophical Transactions for May 1699, affords an excellent exposé of the nature of the succedaneum supplied between the ends of the tendons, and might, if sought for, have prevented the cruel experiments of Mons. Bouvier, of Paris, who has been two much influenced by the spirit of the French school of physiology, where the lack of invention is too often cloaked by a cloud of wanton and irrelevant vivisections.

I must now apologize to you, Mr. Editor, and to your numerous readers, for this invasion of your time and tax upon your patience; and I conclude by stating that I shall consider my object as attained, if these cases and observations shall have succeeded in sustaining the interest which has been already excited by the new operation, and in attracting towards it more generally the attention of my professional brethren.

The operations detailed hereafter were performed in the presence of one or more of my medical friends, particularly of Mr. Hammond, of Eton; Mr. D. O. Edwards, of Chelsea; and Mr. Richard Youl.

Plaster of Paris casts were taken of the patients' feet, both before the operation and afterwards. From these, the drawings presented to the public are made, and for which I am indebted to my young friend, Mr. George Handford *.

Wokingham, St. Thomas's Day, 1839.

ON THE STRUCTURE AND PHYSIOLOGY OF FAT.

By James Paget, M.R.C.S.

Demonstrator of Morbid Anatomy, and Curator of the Museum at St. Bartholomew's Hospital.

[*For the London Medical Gazette.*]

It is often remarked as singular, that the oil which is contained in the minute cells of the adipose substance does not transude from them into the surrounding parts; and this circumstance has been regarded by many as one of the strongest evidences in favour of the existence of a peculiar vital power in living tissues, resisting and overcoming the tendency to the mechanical imbibition of fluids. Such a supposition, however, (which in every case may be shown to be unnecessary and improbable), is in this of the adipose tissue at once proved to be erroneous, by the fact, that so long as the cells are uninjured the oil is retained in them as well after death as during life; and I believe it may be made to appear that this supposed exception to the influence of physical laws is in reality the result of one of the most beautiful adaptations of them that can be found in the animal body.

When two different fluids are separated by an organic membrane, or by a thin layer of certain other finely-porous

* We shall probably give the cases next week.

substances, neither of them can completely permeate the partition unless it have some tendency to mix with the other. If the two fluids are not disposed to mix, the pores of the membrane will imbibe that fluid for which they exercise the greatest capillary attraction; but when they are filled, no further motion of either fluid will take place. Thus, if a portion of bladder be placed between water and oil, the water will enter its pores and fill them, but it will not pass through them into the oil, with which its particles have no disposition to mix: neither will the oil penetrate the bladder in the opposite direction towards the water, because it can neither enter the pores which exercise a more powerful attraction for the water than for it, nor mix with the water which they contain. Hence, a moist bladder is impermeable by oil, and an oiled membrane is impermeable by water; because those two fluids have no tendency to mix, and the pores of a membrane, when occupied by one, exercise no capillary attraction on the particles of the other.

In like manner, when two immiscible fluids, as water and oil of turpentine, are shaken together, as minutely as possible, they may be separated by pouring them on a filter previously wetted with one or the other of them. If the filtering paper be moistened with the oil of turpentine, the water will be retained; if with the water, the water only will pass through, and the oil will be retained.

The cells of the adipose tissue seem to me to present an illustration of the same law. They are vesicles formed of an extremely delicate organized membrane, and each inclosing a minute drop of oil. The tissue of their membranous walls is moistened with the same fluid as that which all the tissues imbibe from the blood-vessels, *i. e.* a watery fluid containing a small quantity of albumen and certain salts, with which, therefore, oil has no disposition to mix, and thus each drop of oil is imprisoned in a vesicle of impermeable tissue.

A more admirable arrangement of materials can scarcely be conceived. Most of the mechanical purposes which the fat serves are such as might have been fulfilled by any other fluid placed in similar cells; but (not to mention the advantages of its lightness, for which it is especially employed in the bones, and its importance as an excretion), oil alone could be thus retained within a limited space. All watery fluids would have been rapidly imbibed into the surrounding tissues, unless retained in water-proof cells. But such cells would have involved a wide departure from the common structure of the body, and could not long have remained water-proof, unless maintained in their condition by a constant supply of some fluid with which water has no tendency to mix. There must have been a circulation of oil, or some similar fluid, to prevent the transudation of water from oiled cells, just as by the circulation of the blood there actually is a constant supply of watery fluid to keep the cells of the adipose tissue moist and impenetrable by oil. During life, the oil-cells, by the capillary attraction of their walls, constantly imbibe this watery fluid from the blood circulating in the minute vessels adjacent to them,* and after death, if fat be kept in or near water, no oil transudes from it till its cells give way.

The only circumstances under which the oil escapes from its cells are when the cells are opened, as when they are cut, or burst by violence or heat, or putrefaction, or the action of alcohol, or when their impermeability is destroyed by *drying*. Thus, when one dries any tissue containing fat-cells, its surface is found bedewed with minute drops of oil from the cells which have become permeable by the evaporation of the watery fluid that previously filled their pores, and which, contracting as they dried, have forced out their contents. If, on the contrary, a piece of a similar tissue be put in water, no oil will escape except from the cut cells on the surface, or from those that are broken in the course of putrefaction, or by any other means. We see the same facts illustrated in the boiling and roasting of meat; in the former only the oil of the divided adipose cells near the surface flows out; in the latter it continues to flow as the cells are gradually dried to a greater depth, till an impermeable crust of charred animal matter is formed upon the surface. These and many other

* The description of Mascagni (Prodromo delle gr. Anat. Tav. i. f. 1. 2. & T. ix. x.), and some others, that the wall of each cell is vascular, is probably incorrect. Like all other primary cells the fat globules are extra-vascular, but their distance from any blood-vessel cannot prevent their imbibing a sufficient quantity of fluid to keep their walls moist, so long as they are connected with a blood-vessel by a continuous porous membrane.

circumstances that will at once suggest themselves, will sufficiently show that so long as the fat-cells are unbroken and moist, the oil will not pass through their walls; and the plain reason is, that it can neither displace nor mix with the watery fluid that already occupies their pores.

I shall take this opportunity of offering a few remarks on some of the purposes to which the adipose substance is made subservient in the animal body. By far the greater portion of a mass of fat is a fluid; and the walls of the cells are so extremely thin and pliant, that in many of its mechanical uses they may be neglected as of no appreciable influence. Like a mass of any other fluid unconfined in cells, fat is incompressible, and highly elastic, and diffuses pressure equally in all directions. But the forms which can be given to any mass of fat by external pressure, are limited by those which the cells in which its fluid particles are contained are capable of assuming without rupture. Its condition in this respect is coarsely represented by that of water inclosed in a water-proof cloth bag. The forms which the mass of water in this case can assume are determined by those which the cloth around it can receive; it could not be forced into the shape of an elongated cone or cylinder, nor into that of any sharply angular body—forms which a mass of free fluid would assume as readily as any others; but for all slight changes of form the mobility of the particles of fluid upon each other being complete, the influence of the sac in which they are contained need not be considered. This influence must be the less the more delicate and pliant the walls of the sac are; and when, instead of being contained in a single impermeable bag, the fluid is inclosed in a collection of slightly-moveable cells of extreme minuteness, and extremely thin walls, (as in each mass of fat composed of bunches of cells, varying in different individuals from 1-300th to 1-1,000th of an inch in diameter, and with walls immeasureably thin,) we may believe that their surface will be able to adapt itself to a certain series of slight changes of form, as exactly and with as great facility as a mass of fluid free to move and unconfined in cells.

The uses of the fat, as an incompressible elastic substance, by which a local pressure is diffused over a large surface, are well known, in the sole of the foot, beneath the tuberosities of the ischia, and in certain other parts; on the masses of fat which are placed in these situations, we stand and sit as we should on water-beds, but with perfect security, because not a drop of the fluid can pass the limits of its own cell. The same purpose is probably answered by the fat deposited in the deep layers of other parts of the skin, by which nearly the whole surface of the body is enveloped by a fluid, and the adjacent parts are, to a certain degree, protected from external injury.

But the chief use which this view of the structure of the adipose tissue suggests, is that in which it serves as a passive material for filling up the spaces that are left between adjacent organs, whose functions require them to possess peculiar forms, such as could not be exactly adapted to each other, without some embarrassment to the performance of those functions. A few examples will illustrate this:—The essential parts of the heart are its muscular walls and its valves, and for their several actions it is necessary that the former should possess the shape which, on dissection, we observe, and which may be roughly compared to that of two hour-glasses placed side by side: the muscular fibres of the auricles and ventricles being constricted around the valves connected with each. But an organ of this form could not move freely with a series of alternate contractions and dilatations in any space only just larger than itself; and this difficulty is increased by the addition of the great vessels attached to the orifices of the cavities, and of the coronary arteries and veins running on the surface of the walls. Whoever examines a dissected heart and large vessels, from which all the fat and cellular tissue have been carefully removed, will readily admit that it would be next to impossible that an organ of so irregular a form should move freely in a cavity whose walls closely surrounded it, and exactly fitted into all the depressions between its varied prominences. In the actual structure of the heart, however, this difficulty is removed; all the irregularities of surface which those parts of the heart and large vessels that are essential to the circulation present, are filled up by fat, (or, in a few places, by cellular

tissue,) which is accurately and exclusively deposited in the situations in which, but for it, abrupt elevations and depressions must have existed; as in the furrows, where the fibres of the auricles and ventricles are concentrated around the valves, in those by the sides of the coronary vessels, and all their branches of a certain size, in the spaces between the great arterial and venous trunks, in the depression over the septum of the ventricles, &c. Thus the whole organ is brought to a simple ovoidal form, with a smooth and even surface; so that it contracts and dilates, and moves in certain directions, with the least possible friction against the walls of the pericardium; while the mobility of the particles of oil is not so limited by their cells, but that they can instantly and exactly adapt themselves to the slight changes of form to which the parts of the heart about which they are placed are in their natural motions subject.

The fat of the orbit appears to serve an analogous purpose;—a spheroidal body, the globe of the eye, is required to be freely moved near the base of a hollow quadrangular pyramid, by long muscles attached to its apex. It is clear that these, the essential parts of the visual apparatus, could not be exactly fitted to each other so as to leave no intervening space. The advantages of a tissue possessing nearly all the mechanical properties of a fluid for filling up such a space are sufficiently distinct; the friction of the eye-ball in its varied movements is the least possible—yet its support is perfectly firm, and its muscles act upon it with as little restraint as if they passed through a mass of free fluid.

Again, it is impossible to arrange a cylindrical tube in a rounded cavity, without leaving many empty spaces between the several portions of each; and, admitting that these forms are the best adapted for the respective functions of the digestive canal and the abdominal cavity, it is evident that the one cannot be arranged within the other, so as to leave no vacancies, unless some material be placed between all the angles at which the walls of the cylindrical tube are in contact. Among many less certain uses, the fat of the omentum, mesentery, and appendices epiploicæ serves this purpose. In examining the bodies of those who have died in a moderately robust condition, every one must have been struck with the admirable accuracy with which the fat of these parts fits into all the irregularities left between the abdominal viscera, permitting all to move upon each other, and upon the opposite peritoneal wall, with but little friction, and in the limited changes of form which the motions of the organs upon each other produce, adapting itself as exactly as an equal quantity of free fluid would.

One more example, from many that might be quoted, may suffice to illustrate this use of the adipose tissue; it is that of the Haversian glands, the masses of fat that are found protruding in certain situations into the cavities of nearly all the moveable articulations, and of many bursæ, tendinous sheaths, &c. In the structure of a moveable joint a chief object is, to avoid all unnecessary friction, and we therefore find that the portions of the surfaces of the cartilages which are at any given time in contact, are as small as is consistent with a security of their co-adaptation. In most joints, whatever be their position, the cartilages are in contact over only a comparatively small portion of their surfaces, and from that portion they diverge, more or less widely, from each other; so that as far as the essential parts of the joint, the cartilages, and ligaments, are concerned, there must always be a considerable space left between and within them. A large portion of this space is filled by fat, which is found projecting, (often in large and delicately-formed processes) into the interior of the joints, fitting into all the curvilinear angles that are left between the several cartilages and ligaments, and in the various motions of the joint easily adapting itself to every change of form that can be produced by the natural positions of those tissues. The mobility of the particles of oil, however, being limited by their cells, the fat around the joints can serve but imperfectly to fill up the spaces in their cavities; the more minute intervals are filled, and the adjustment of all the surfaces rendered perfect, by a free fluid, the synovia, which insinuates itself into finer spaces than the fat-cells could pass into, and which, interposed between the cartilages, sustains a pressure which the fat could

not bear without danger of rupture of its cells.

Many other examples of parts in which one of the chief purposes which the fat serves seems to be this of packing, (if I may use so homely an expression), might be mentioned. Indeed, in all the parts in which it is found, this appears to be one of its uses; to unite the more important and actively-functioned tissues into a single and connected mass, possessing a form which has some local advantages. It serves this end not only in internal organs, but on the exterior of the body, giving that roundness of form with which (among many advantages) the limbs and trunk meet the least resistance in traversing the air or water; and of the application of which we find perhaps the best example in the rounded shape of the whales, whose irregularity of form, when the large masses of fat are removed from their surface, would be ill adapted for velocity of passage through the sea.

One or two more considerations naturally arise from the view of the structure of the fat which I have pointed out. In the whale tribe, and to a certain extent in other animals, the cutaneous fat is generally admitted to serve as a protection from cold. For this purpose its structure is admirably adapted; as a fluid its power of conducting heat is of course extremely small, and being contained in separate minute and impermeable cells, the convection of heat is also almost entirely prevented, because each collection of particles can circulate only within its own cell, and the temperature of the walls of the cells is maintained at a constant degree by their immediate connexion with the blood-vessels. Were the mass of oil a free fluid, convection of heat might take place with sufficient rapidity to produce an appreciable decrease of temperature in the upper part of the animal.

The oil of the fat has been mentioned as an excreted fluid. It has been well said for all the tissues, that the materials abstracted from the circulating fluid for the nutrition of each are in their relation to the whole economy, excretions;* and this appears very evidently true of the oil of the fat. Its abstraction, removing a large quantity of carbon and hydrogen from the blood, cannot but be of considerable importance in nutrition, and its accumulation in unusual quantities (when not destined for consumption during a period of fasting), occurs under circumstances more similar to those of disordered secretion than of increased nutrition. A certain quantity of fat is no doubt essential to an animal for the several mechanical purposes which it serves. In the parts particularly spoken of above, it is always present in greater or less quantity even in the extremest emaciation, or at least it is so rarely absent that it may be considered a constant part of their structure.* But to all beyond this mechanically useful quantity the apparent paradox of Mr. Hunter,† "Fat is no part of an animal" is strictly applicable; all beyond this may undoubtedly "be considered as an adventitious matter." It is a retained excretion, which does not produce the usual ill effects of other fluids of the same class when retained in the body, because, being imprisoned in impermeable spaces, it cannot at once pass into the current of the circulation, nor be diffused into the surrounding tissues. The accumulated fat of the hybernating animal has no part in the general economy, till by a process of nutritive absorption it is removed from its cells into the blood;—before that time it is a mere store of food, as effectually though not as far removed from the body as stores laid up in granaries. In like manner the morbid effects of excessive obesity are entirely mechanical; the oil in the fat-cells is as much removed from any influence on the condition of the nutritive fluid, as if it had been poured out of the body.

* G. R. Treviranus. Die Erscheinungen und Gesetze des org. Lebens. v. 1, p. 401.

* I have seen but one case in which the adipose tissue was entirely removed from around the heart; it was replaced by an equal volume of very moist cellular tissue. I believe the fat is never entirely removed from the orbit;—the sinking of the eyes in extreme emaciation is produced by the loss of a mechanically unimportant quantity. Fat is certainly always present around the joints; and very rarely, if ever, absent about the abdominal organs. As far as I know, also, fat exists in these parts in all the higher animals. In the hare, which is said to be the leanest of animals, and in which little or no fat is ever found in those parts where accumulations of it are common in others, it is always present in sufficient quantity about the heart, orbit, &c. to perform the mechanical purpose that I have assigned to it.

† Catalogue, v. 3, p. 209.

ON A NEW UNIVERSAL INTERRUPTED SPLINT.

By Alfred Smee,
Late Dresser at St. Bartholomew's Hospital.

[*For the London Medical Gazette.*]

Compound fractures of the leg, at St. Bartholomew's Hospital, are treated by placing the limb upon a back iron splint of about an inch and a half broad, and of such a thickness that it may be bent to accommodate itself to the limb. It is turned up towards one end, at nearly a right angle, to form a point to which the foot may be fixed by a bandage; at the point corresponding to the heel, there is a hole to prevent any undue pressure on the part, which might give rise to troublesome sloughs. Immediately above this aperture is a piece of iron, about an inch broad, and one foot long, which is rivetted at right angles to the principal piece; this is simply to allow it to rest freely on the bed. Above this attachment the splint is bent to a convexity, to adapt it to the cancavity above the heel, and then it is rendered concave to suit the convexity of the calf; again it is convex, to fit into the hollow behind the knee. The whole splint is covered with a pad, to render it soft, and if much discharge is expected, the pad is protected by oil silk.

There is an advantage of this position for most compound fractures of the bones of the leg, wherever they may occur, and it is even useful in many serious comminuted injuries. In these cases the powerful action of the muscles of the calf has a tendency to throw the two ends of the bone forwards, especially when the fracture is about the centre of the limb. This bowing is immediately remedied by placing it upon the splint just described. In these cases the leg is farther fixed by two flat wooden splints, one on either side the limb, extending from the foot to above the knee, and these are also covered with a pad; the whole is then confined by straps, with buckles.

In compound fractures, where the bone is separating, or where ulceration or gangrene is taking place, it is often necessary to apply a poultice, the water-dressing, or various lotions, such as the chloride of soda. In these cases the interrupted splint is used on the side in which ulceration is taking place. It is formed of two pieces of wood, united by a strip of iron bent at two right angles, so that the two pieces of wood have an interval of a dimension suitable to the extent of the sore.

Now in these interrupted splints are three variable elements: first, the gap requires to be of different extent in different cases, or even in the same case at different periods; secondly, the wood below the gap requires to be longer, or shorter, according to the situation of the sore, and lastly, the length of the piece of wood above the sore is required in the same way to be altered. These circumstances vary to such an extent in different cases, that it is customary at St. Bartholomew's Hospital to send to the carpenter to have a new splint made for each accident.

To obviate the delay and inconvenience attending this proceeding, a splint adapted to meet these exigencies in every part of the leg was devised.

The wood of which the splint is formed should be hard, and of a thickness sufficient to make it quite firm; two inches and a half will be found most convenient for its breadth. In order that the two pieces of wood on either side the gap may be of different length, pieces are inserted in their edges by moveable joints. This mode of junction should be very firm, and requires particular description. A piece of brass of the same breadth and depth as the wood, is to be taken; in this four holes are made, to allow the brass to be screwed firmly to the edges of the wood. Two pegs, about an inch long, and of a thickness sufficient to give strength, are rivetted in the brass, so that when the brass is fixed on the edge of the wood, these two pegs project. Another piece of brass, of exactly the same size as the last, is now to be procured, and in a situation corresponding to the pegs, two holes are to be bored, in which the pegs can fit with accuracy. Four other holes are now to be made, for the purpose of screwing it firmly to the edge of the wood. The situation of these pegs, with their corresponding holes, is important; for in every joint they must be fixed exactly in a similar position; and to effect this the holes must be all made to a gauge, and the pegs rivetted with like accuracy. By this contrivance we have a number of similar joints of such strength that pieces of wood can be firmly united by their edges. The

difficulty of adjusting these pegs and holes to each other exactly, is obviated by taking a small piece of twine, and putting it into the hole, which will be found to make the junction firm.

Having considered the breadth and width of the wood, and the joints by which the pieces are united, the next point is to mention the length of each separate piece, which should be of such a size that the greatest variety of adaptation should be obtained with the fewest possible joints. Four pieces of wood are first to be taken, each one inch and a half long and three broad, and one-third deep; these on one edge are to have one part of the brass joint fixed; the other edge is to be rounded off. Two of these pieces are to have the brass with the pegs fixed on, and the other, the two holes in which these pegs fit. These pieces form the four ends of the wood work of the splint; one piece being applied at the upper part of the splint, another at the other end of the gap or interval for the sore, the third at the lower end of the interval, and the last at the end nearest the foot. On the two which form the boundaries of the gap, the brass pieces for regulating it are fixed.

Thus it is manifest, that having these four pieces of wood, the wood would be three inches above the interval, and three inches below it; now others are wanted to fit on in such a way that each part may be extended one, two, three, four, five, or more inches, according to circumstances; or in other words, we want pieces of wood so that two arithmetical series in inches should be formed. Now advantage is taken of the properties of the geometrical series, the sum of which forms an arithmetical one, but though we want two arithmetical series to make the splint quite complete, it will be found that for every practical purpose pieces of wood of the following lengths will suffice. Thus they must be one inch, two inches, three inches, five inches, and seven inches respectively, and by combining these, great varieties can be produced. As the part below the gap, which we have already seen, is three inches, it may, by the addition of these pieces, be extended to four, five, six, up to eighteen inches, and the part above the gap can be increased in a similar way.

The mode by which the interval is increased or diminished is by two pieces of brass. One of these is about three inches in length, and terminated at one end by a square flat piece, to be screwed into the woodwork. The other piece of brass has a similar termination at one extremity to be screwed on the wood; the rest is circular, and has a bend at right angles, at three inches from the extremity last described; from this bend the brass is continued about eight inches, and is of a size corresponding to the ring in that portion first described. Into this it fits, and by sliding to and fro, the aperture is augmented or contracted as required, and it is secured in its situation by screwing in the first piece of brass. This mode of adjusting and fastening is similar to that of the ring of a retort stand on its support.

The splint thus constructed fulfils every purpose for which it was designed, not theoretically, but practically, for its complete strength has been proved in the cases to which it has been applied during the last year in those wards of the hospital attended by Mr. Lawrence. Its adaptation as an interrupted splint to every part of the leg has been also tested, and it can also be used as a simple splint when required.

I should not thus have trespassed on the attention of the public unless I had been asked to do so, and therefore let this reason, as well as the difficulty attending the description of any mechanical contrivance, be an excuse for any imperfection contained in this paper.

Bank of England, Jan. 9th, 1840.

UTERINE HÆMORRHAGE.

To the Editor of the Medical Gazette.

Sir,

If you think the following cases of uterine hæmorrhage occurring before delivery worthy of a place in your valuable journal, you will oblige me by inserting them.—I am, sir,

Your obedient servant,

Robt. Robertson,

Lecturer on Midwifery, University and King's College.

Aberdeen, 16th Jan. 1840.

On the morning of the 30th April, 1836, I was sent for to see Margaret Milne, a single woman, æt. 35, residing in Broadford, eight months advanced

in her second pregnancy. She had a midwife with her, who informed me her patient had flooded so much during the two hours previous to my visit, that the bed was completely deluged, and that the discharge had run over the bed and filled a small tub and chamber-pot. I examined per vaginam, found the os uteri dilated only to the diameter of a a shilling, and she was without pain, extremely faint, countenance sunk, face and lips livid, pulse scarcely perceptible. Admitting cool air into the apartment, and the application of cloths wrung out of cold water and vinegar applied to the abdomen and back, under the directions of the midwife, before my arrival, had in a great measure abated the discharge; but as it returned shortly after I entered the house, and the woman seeming to be in the most immediate danger, I was very desirous of relieving her by turning the child; but deeming it proper to have the opinion of another practitioner, I left her, ordering the cold cloths to be discontinued, and to have an infusion of half a drachm of secale cornutum every quarter of an hour, with some beef tea and brandy in the interval. I called again in about half an hour, along with a brother practitioner, on whose counsel I placed a good deal of confidence; he seemed to think my patient too far gone to receive relief from any attempt at turning, adding it as his opinion, that she would sink during the operation. I therefore introduced my hand into the vagina, got one finger within the os uteri, and scratched through the membranes. We left her, ordering the ergot and beef tea and brandy to be continued, and in a very short time after our departure she expired. On making a post-mortem, thirty-six hours after death, we found all the organs in the abdominal cavity healthy, and on opening the uterus, we found the fœtus lying in the natural position, the placenta, which had adhered to the fundus, completely detached, and lying loose, together with a large quantity of coagulated blood in the uterine cavity.

Remarks.—What is remarkable in this case is, that the woman had never suffered any pain in the back or abdomen at all, and could not account in any way for the appearance of the discharge, it having come on all at once on her endeavouring to get out of bed. Had I been sent for earlier, before she had lost so much blood, I should not have hesitated one moment in introducing my hand into the uterus, turning and delivering her, but at the time I first saw her, she was so depressed, that I was afraid of her sinking during the operation. In this case the ergot produced no effect whatever on the uterus, although quite fresh, which is not to be wondered at when we consider the low ebb to which the vital powers were brought. I may mention likewise that I am in the habit of using this medicine in half-drachm doses in infusion, allowing it to infuse only ten minutes, then stirring up the grounds in the cup, and making the patient drink grounds and all, which I have found to be much more certain in its effects than giving the infusion by itself. I have also found that if it is allowed to infuse long, it produces nausea and vomiting, a thing always to be avoided in cases of uterine hæmorrhage: used in the way here recommended, when fresh, I find it to be an invaluable remedy in all cases of uterine hæmorrhage, either before or after delivery. A few months ago I was requested by a medical friend here to see a patient of his, who had a discharge of blood from the vagina for three weeks previous to the time she went into labour, attributable to a fall she received; and when labour took place it became so alarming, that her medical attendant had doubts of her being able to stand out till delivery was completed; he had been giving the ergot in powder, about a scruple every quarter of an hour, without any decided effect. I suggested that he should try the infusion, given in the way I have recommended, every quarter of an hour, when, after she had taken three doses, violent uninterrupted uterine action came on, which was before feeble, and in half an hour the infant was born. When the placenta was thrown off, which was shortly afterwards, one-fourth of it was quite black, which had been separated from its attachment by the fall, and accounted for the discharge of blood taking place, before and after she went into labour. The child which was expelled first was dead, for there was another expelled soon after, which was alive; both mother and child did well. From the violent and uncontrollable action of the medicine, I have been deterred from using it in my own practice, except in such cases as I have

mentioned, and where there is a partial attachment of the placenta over the os uteri. I have found its administration, after having introduced a finger up by the edge of the placenta, and rupturing the membranes, of decided advantage in facilitating the delivery, and doubt not that in many cases it will supersede the necessity of introducing the hand within the uterus, which is an operation always attended with great danger to the mother. Not so, however, with the ergot, when given in cases of hæmorrhage from the uterus, which in my humble opinion are alone fitted for its use: the soft parts of the woman being then quite relaxed, none of the dangers of laceration and contusion are to be apprehended.

MEDICAL GAZETTE.

Friday, January 24, 1840.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

MORTALITY OF LONDON AND HAMBURGH.

If any thing were wanting to shew the extreme superiority of the Hamburgh over the London bills of mortality, it might be found in the division of inflammations, where the London list, exclusive of the vague head, 'Inflammation,' presents us with only three varieties; these are—inflammation of the bowels and stomach, to which 160 deaths are attributed; of the brain, with 134 deaths; and of the lungs and pleura, with 315. The Hamburgh registers, on the other hand, distinguish 13 species of inflammation, namely—of the ear, the brain, the spinal marrow, the heart, the lungs and pleura, the liver, the spleen, the stomach, the bowels, the peritoneum, the bladder, the kidneys, and the uterus. But instead of making any more of these mortifying comparisons, and trampling upon our fallen bills, it may be more interesting to see how the Hamburgh list agrees with the London one, as given in the first annual Report of the Registrar-General. The deaths from July 1st, 1837, to June 30th, 1838, both inclusive, in the metropolis,* amounted to 53,597. The population, according to the census of 1831, was 1,594,890; but, as we observed in our last article on this subject, it had probably increased to 1,690,700 in 1837. Now, in this first annual Report, Mr. Farr gives a classified abstract of the deaths for the last half of the period, namely, from January to July 1838; and since the population of London is twelve times that of Hamburgh, in comparing Mr. Farr's abstract with the Hamburgh bill, six times as many deaths under any given disease in the former will give an equal proportion for the two towns. We may remark that Mr. Farr's list contains ninety diseases; being a greater number than are to be found in the Hamburgh one, as might be expected, from the larger size of the district: yet many heads to be found in the Hanse-Town catalogue are deficient here, evidently not from the absence of the disease, but from the vagueness the certificates. Among these are the atresia ani, spondylarthrocace (diseased vertebra), and spina bifida; the first and third being included, we suppose, under the head of malformations, in our London Bill.

The deaths in the half-year just specified, were 24,959; and of these, 6562 were caused by epidemic, endemic, and contagious diseases, which form the first division in Mr. Farr's able summary. Among them, cholera destroyed 58, and influenza 26 persons; but small-pox

* This division comprises the Superintendent Registrars' districts of Bermondsey, Bethnal Green, Camberwell, Clerkenwell, St. George's in the East, St. George's, Hanover-square; St. George's, Southwark; St. Giles' and St. George's, Bloomsbury; Greenwich, Hackney, Holborn, Islington, St. James', Kensington, Lambeth, City of London, East London, West London, St. Luke's, St. Martin's in the Fields, St. Mary-le-bone, St. Mary, Newington; St, Olave, St. Pancras, Poplar, Rotherhi he, St. Saviour, St. Leonard's, Shoreditch; Stepney, Strand, Westminster, Whitechapel.

carried off 763. Now if we take the 24 deaths from small-pox, in the Hamburgh bills, as a standard, the deaths in our metropolis ought to have been only 144; so that the mortality from this disease is more than five times its just proportion. To what are we to ascribe this prodigious disproportion? Unquestionably to the neglect of vaccination on this side of the water. These figures are an overwhelming answer to objections against vaccination, and shew that Jenner's discovery, though not quite so perfect as he supposed, is well worth fighting for. We certainly have no wish to follow Celsus, when he talks of a method of curing dropsy which succeeds better with slaves, *quàm in illis quibus inutilis est libertas;* but we wish that the same effect which is produced on the continent by police regulations, could be obtained here by persuasion and the diffusion of knowledge. The numbers respectively set down to small-pox in Hamburgh and London may serve to shew the utility of bills of mortality, which are not merely intended to gratify a liberal curiosity, but, when properly analysed, afford hints for the prevention and even the cure of disease.

Under the same head Mr. Farr has ranged diarrhœa, which we should rather have placed amongst the diseases of the intestinal canal; the deaths ascribed to it in the half-year are 394. At Hamburgh two deaths only were caused by diarrhœa, during the year 1838. This remarkable discrepancy of course depends rather on the different nosology than on the difference of disease in the two cities; as in Hamburgh the deaths of patients apparently sinking under diarrhœa would be set down to the ulceration of the bowels discovered on dissection. The same explanation may be given of the fact that 64 deaths are set down to dysentery in London, and none at all in Hamburgh; unless, indeed, the reader should prefer the supposition, that the same advance of civilization which has reduced the deaths by dysentery in the metropolis from several thousands annually, to 64, has reduced them to zero in the Hanse Town. Thus in 1670 the London bills ascribe 142 deaths to "bloody flux, scouring, and flux," and 3,690 to "griping in the guts." In 1680 sixty-eight deaths to "bleeding, bloody flux, and flux," and 3,271 to "griping in the guts." In 1690 twenty-three deaths to "bleeding, bloody flux, and flux," and 2,269 to "griping in the guts." But better times dawned, and in 1717 the bills attribute but one death to bleeding, twelve to bloody flux, ten to flux, and 653 to "griping in the guts." It might puzzle a Cullen, or a Sauvages, to give the scientific equivalent for the popular name in all these instances, but we cannot be far wrong in supposing that, in the majority of cases, dysentery was intended. To us it does not appear probable that the citizens of Hamburgh have succeeded in exterminating this satellite of misery; and we therefore suppose it to be included among the sixty deaths attributed by their physicians to inflammation of the bowels. Nevertheless, as only seven deaths are put down to inflammation of the stomach at Hamburgh, and 562 to gastro-enteritis in London, we have a great preponderance of diseases of this class in the metropolis.

Fifteen deaths were caused by ague in London, and none at Hamburgh.

Under the next division, that of diseases of the nervous system, we find 489 deaths ascribed to apoplexy, and 337 to paralysis; at Hamburgh 367 to apoplexy, and none to paralysis. But, supposing apoplexy at Hamburgh to include both items, the number is enormous, being equivalent to a mortality of 2,202 in the metropolitan district.

One death is put down to chorea in

London, but none at Hamburgh. Our readers will recollect that this disease, now so rarely fatal, was once an epidemic of the gravest stamp, infecting thousands, and disturbing the very frame-work of society, as may be seen in Dr. Hecker's learned account of the dancing mania.

Delirium tremens carried off 15 persons at Hamburgh, and 34 here; whereas our proportionate number should be 90. Among the diseases of the respiratory organs, laryngitis destroyed 8 persons in London, and quinsey 45; neither of them being mentioned in the Hamburgh list; while consumption and decline destroyed 898 at Hamburgh and only 3,877 here, instead of 5,388; the metropolitan proportion being considerably less than one-sixth of the whole deaths.

The deaths ascribed to diseases of the organs of circulation form the least satisfactory division; for 20 being put down to pericarditis, and 11 to aneurism, all the rest, 325 in number, are confounded under the uninstructive head "disease." Nor are things better in this respect at Hamburgh; for while one death is attributed to morbus cœruleus, and 7 to aneurism of the aorta, 40 are lumped together under the title of diseases of the heart. The Bills thus demonstrate that on the Elbe, as on the Thames, the art of distinguishing diseases of the heart is yet in its infancy.

Among diseases of the intestinal canal, we observe 78 deaths put down to constipation, and 7 to worms, while the Hamburgh bills do not give a single example of either; if we take into consideration the 14 deaths which they ascribe to ileus, a malady not noticed in the metropolitan list, this will balance the matter so far, but leave untouched the preponderance of bowel diseases in London which we noticed above.

Among diseases of the urinary organs we find 6 deaths from diabetes in London, and one at Hamburgh, the proportion being exactly the same for the two cities. Granular disease is put down, but with no cases opposite to the title, nor does it occur in the Hamburgh list; so that although the *morbus Brightii* is now recognised as a frequent disease everywhere, it cannot yet find its way into certificates.

The diseases of the organs of generation are ranged under five heads; orchitis, without any death, childbed with 195, paramenia with 5, ovarian dropsy with 13, and "disease" with 39. Orchitis is not mentioned in the Hamburgh Bills; nor paramenia, which Mr. Farr gives as a synonym for mismenstruation, or turn of life; nor ovarian dropsy. Nine deaths are set down to childbed at Hamburgh, and 15 to puerperal fever; and the three deaths there charged to uterine hemorrhage might very possibly with us be included under the head of childbed; though we have also 100 deaths ascribed to hemorrhage, of which 39 were in females.

Passing over the diseases of the organs of locomotion, and of the integumentary system, we come to those of uncertain seat. Among these we find 100 deaths put down to abscess, while only 2 occurred from this cause at Hamburgh; a difference which must chiefly arise from a diversity in medical language.

The last item we shall notice is that of starvation, to which 13 deaths are ascribed in the metropolitan district, and none at Hamburgh. Does this show that greater care is taken of the poor in the Hanse-Town? We imagine not; but that in both cities, as deaths from starvation are not supposed to reflect much credit upon social arrangements, they are commonly ascribed to debility, or atrophy, or anything, in fact, except so reproachful a cause as

starvation. Major Graunt, however, the most ancient and celebrated of all the commentators on the Bills of Mortality, finds matter for exultation in the paucity of persons actually dying from sheer want of food. He says, "My first observation is, that few are starved. This appears for that of the 229,250 which have died, we find not above 51 to have been starved, excepting helpless infants at nurse, which being caused rather by carelessness, ignorance, and infirmity of the milch-women, is not properly an effect, or sign of want of food in the country, or of means to get it."

A more accurate examination would show that the diseases, and consequently the mortality, attributable to deficiency of food, are far more numerous than optimists would suppose, or economists allow.

On the whole, the account of deaths now given under the provisions of the Registration Act is not only a surprising step in advance of the helpless insufficiency of the old Bills, but may almost compete with the Hamburgh list. The present inferiority consists in the vague heading "disease," which occurs in every class but two; in 354 deaths being put down to "causes not specified;" and in 222 "sudden deaths." Mr. Farr's abstract and commentaries do him great credit, and as a table of mortality for the metropolis is to be published weekly, we shall avail ourselves of it hereafter.

COLLEGE OF SURGEONS.*

To the Editor of the Medical Gazette.

Sir,

In offering a few observations on Mr. Key's strictures or observations on the College of Surgeons, and some other Medical Institutions, I shall at present confine them to the attack in his first letter on the former of these bodies; and having only read it yesterday, I must claim indulgence for the unconnected and hasty manner in which my remarks are put together.

In his letter to the editor, dated 30th Nov., and published in the Gazette of Dec. 6th, No. 11, he states, "that his strictures on the present extraordinary position in which the College of Surgeons is placed, originated in the wish of a friend to hear his opinions on the subject;" and he goes on to say, that his friend has often asked him, "whether he considers the College of Surgeons, and our other medical institutions, to be as perfect as to need no improvement." In the first place I would observe, that but few persons, whether friends or foes, are likely in these times to consider any institution whatever to be so perfect so to defy improvement: and in the next place, I must profess my ignorance of what is really meant by the term the "extraordinary position" in which the College is placed; but as these strictures emanate from a friend of the College, it is proper to receive them and to discuss them in a friendly spirit, and to believe that some remarks, which appear to be not quite fair and just, are the consequences of an erroneous, and not of a hostile or prejudiced view of the subject or the circumstances.

The nature of Mr. Key's sketch of what seemed to be a feasible plan for effecting the object of uniting the schools of anatomy, and placing them on a University basis, it is impossible for me to know; for, although it was forwarded to two leading members of the College of Surgeons, it does not appear to have been ever brought under the notice or consideration of the College as a body, and the College cannot therefore be fairly blamed for not attending to it; and the two influential members alluded to might have informed Mr. Key, that the College was by no means supinely waiting for events, but was anxiously engaged for a long period in attempts to effect the very object noticed by Mr. Key. But Mr. Key himself states one great obstacle to the College doing all the good that might have been expected from it, in the fact of the legislature, in its wisdom, having on more occasions than one refused to give that authority to the College of Surgeons which it has amply accorded to the College of Physicians and to the Society of Apothecaries; thus limiting its powers of doing good, or of effectually controling and guiding its

* The letter was received last week, but too late for publication.

special department of the medical profession.

In the opinion, however, of many well-informed and unprejudiced men, who give themselves time to reflect upon the position of the College, and its want of legal or parliamentary powers, it has already done much, and much more than might have been expected, to raise the character of surgeons and of surgery in the public estimation; and that no member of the College can have any legitimate reason to complain of its conduct and its progress, seeing that every candidate for the diploma comes voluntarily, and without any legal compulsion or necessity, to undergo his examination, to enrol himself in the list of its members, and to take a solemn obligation that he will thereafter act honorably and do all in his power to maintain the dignity and welfare of the College. How some of its members may be able to reconcile this obligation with their subsequent conduct towards the College, must be left to their own consciences, and the views they may take of this oath.

With respect to Mr. Key's observations on the mode of electing to the Council, it is not possible to conceive, nor do I mean to imply such a suspicion, that he can have heard that the subject was long ago mooted, and moved, and discussed, and was again under consideration at the very date of his letter; but on so great a change in the constitution of any public body there must be a great variety of opinions. I have grounds for stating that one leading member of the committee in the House of Commons, on Medical Education, who is considered as a great authority on all such subjects, is, or was, of opinion that the present mode of election to the Council cannot be improved. Some are of opinion that in a College of Surgeons none but surgeons can have any claim to vote for members of the Council; that no member of another body, to which he owes or has sworn allegiance, ought to have a vote; most people seem to think that there could be no possibility of opening it to all the members of the college, who number, perhaps, 14,000, or more; the greater part of whom are licentiates of the Society of Apothecaries; and that there could be no check on written or proxy votes, but that, whatever plan might be suggested, the votes must of necessity be given personally at the College, and by members of the College, practising only as surgeons. Some think it might be open to all who have been ten years in the profession, and who have practised surgery exclusively for at least three years preceding the election; and some think that the privilege of voting might be properly confided and confined to all surgeons of hospitals and all teachers in anatomical schools throughout the kingdom, as well as all others who choose to undergo the second examination after twenty-five years of age.

Amidst all these discrepancies of opinion, it is evident that time is required to amalgamate and to reconcile them to one distinct and definite plan.

I state these circumstances in order that hereafter, if a change be proposed or effected, the profession may give the credit or the discredit to the College, and not suppose that they have been urged to its adoption by the strictures of Mr. Key, or of any one else.

As to the statement that a Park, a Hey, a White, or a Dalrymple, would not have disgraced the Council of the College, nothing can be more true, and nothing can be much more certain than that they would have adorned it if they had been resident in London; but it does seem strange to conceive or to conjecture how these gentlemen, residing respectively in Liverpool, in Leeds, in Manchester, and in Norwich, could by any possibility have attended to the duties of the College of Surgeons in London.

As to a supposed objection lest the editor of a certain journal might be elected, I dare say he would have made a very good member of Council, and probably would have been one of the most strenuous opposers of any change, when he had seen how well and how honestly and honourably the business of the College is conducted under its present forms; and I think that Mr. Key would be very likely to see things in the same light if he were now in the Council (and in which I hope I may live to see him), for we are not without instances of the kind.

With respect to the new regulations, Mr. Key is in error on the subject of apprenticeships, with which those regulations do not interfere; but whereas one year, and afterwards eighteen or twenty-one months' attendance on the surgical practice of a hospital, was formerly required, it is now decided that the education to fit a student for his examination as a surgeon shall be ex-

tended to four years; and that a portion of three years out of the four shall have been passed in attendance on the surgical practice of a hospital, where there may be also a complete school of medicine, of surgery, and of anatomy; thus prolonging the surgical education from one and a half to three years; and where three years are to be thus passed, it is hardly possible to suppose that any parent, or any person having the direction of a pupil's studies, will not, as a matter of course, advise him to pass at least the last of those years in London, where he would have the opportunity of seeing the practice of surgery, I will not say in greater perfection, but in greater variety (as well as under different circumstances), than he could witness it in any provincial school where there may be only one hospital for him to attend; and this cannot be deemed offensive to the surgeons of provincial hospitals when they consider that the Council do not insist on any but provincial education.

With respect to the age of twenty-one, few will be found to contend that twenty-two is not sufficiently early for the completion of a surgical education, but circumstances must have induced a majority of the Council to decide on the age of twenty-one; and such decision must be taken as the act of the Council at large.

I am unable at present to enter upon the subjects treated of in Mr. Key's second letter, and I shall conclude by merely observing, with respect to his frequent allusions to the unpopularity of the College, that even yet I do not see any tangible grounds for giving implicit faith to this alleged indisposition on the part of its members towards the College; that they must have known, or might have known its constitution and its powers before they voluntarily and unnecessarily sought to become members of it, and subscribed to the solemn obligation required of them; and that it is a strange proof of its unpopularity to see the yearly increasing numbers of candidates who still voluntarily seek its diploma.—I am, sir,

Your very obedient servant,

A Member of the Council.

London, January 16, 1840.

[The letter of "A Looker-on" came to hand as this was passing the press. We shall probably give it next week.—Ed. Gaz.]

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, January 14, 1840.

Dr. Copland in the Chair.

On a remarkable effect upon the Gums produced by the slow introduction of lead oxide into the human body. By Henry Burton, M.D., Physician of St. Thomas's Hospital.

In explanation of the circumstances by which the author was first induced to investigate the action of lead oxide on the gums, Dr. Burton says he had been taught to believe from the perusal of Dr. Warren's Essay on the Effects of Lead, published in 1772, and of Dr. Christison's description of the symptoms produced by the same oxide on man, published in 1829, and re-published in 1836, that a salivation was occasionally excited by its slow introduction into the human body, and during which the saliva was increased in quantity, as well as rendered (according to Dr. Christison) bluish in colour.

In no other author, among several which were consulted, could Dr. Burton meet with any additional notice of unusual symptoms having reference to the state of the mouth produced by the absorption of lead oxide. But his attention was first practically directed to its influence on the salivary glands in the year 1834, when his friend Dr. Roots, and late colleague at St. Thomas's Hospital, had a patient in one of his wards who was said to have been salivated by the internal use of plumbi acetas.

From that period to the present time, an interval of about five years, Dr. Burton has continued the examination of the mouths of patients who have been admitted into his ward with lead colic and lead paralysis; the result of which has been a belief that a salivation, in the ordinary sense of the word, does not occur in one case out of 28 well marked cases of disease, from the absorption of lead oxide, which number have come under the treatment.

Dr. Burton does not deny that salivation has occurred and may occur again; but he contends that a peculiar appearance is invariably produced by lead oxide on the gums, and which may be considered as indicative of its presence in the system. On these 28 patients, the edges of the gums, where they were attached to the necks of two or more teeth of either jaw or both jaws, were distinctly bordered by a narrow line of a deep leaden blue colour, about the 1-20th part of an inch in width, whilst the remainder of the gums, for the most part, retained their usual colour and condition. This phenomenon, observed on the gums of patients affected by lead oxide, differs entirely from any

one characteristic of the presence of mercury in the system, as well as of scorbutus; and is never seen unless the patient has been exposed to the long-continued operation of lead oxide.

In support of these opinions Dr. Burton adds, that he has intentionally produced the peculiar appearance alluded to by the internal use of plumbi acetas, and that he was unable to distinguish it on the gums of 52 hospital patients under treatment for various diseases, which were not complicated with either lead colic or lead paralysis. He is, therefore, inclined to rely on this symptom as an infallible proof of the presence of lead oxide in the system; and, that in all cases of illness originating from this oxide, about the symptoms of which some ambiguity exists, an examination of the gums will materially assist in making a correct diagnosis.

The author notices briefly, the conditions of disease in which this ambiguity is sometimes remarked, and asserts that, in the majority of cases of which lead oxide is the cause of illness, a careful inspection of the gums will immediately reveal the origin of the evil, and suggest an appropriate plan of treatment.

In six cases in which plumbi acetas was administered internally by Dr. Burton, the appearance of the narrow leaden blue border line preceded the accession of other symptoms indicating the presence of lead oxide in the system; and the use of the salt was in consequence discontinued. In two of these cases colic symptoms followed its appearance, but in the remaining four they did not follow. This sign, therefore, Dr. Burton thinks, cannot be implicitly relied on as a means of always averting the pains of lead colic; nevertheless, he believes it may be depended on with as much safety as the copperish taste of the saliva is confided in as an indication to withhold the farther use of calomel, for the purpose of avoiding the other symptoms of mercurial salivation.

During the discussion which ensued at the meeting of the Society after Dr. Burton's paper had been read, Dr. George Burrows stated that a corresponding coloration of the gums had been observed in Germany, and an account published of it in Fromp's Notizen, No. 246, for October, 1839.

We have been since favoured with a translation of that account, from which it appears that the author (Dr. Schilbach, of Neustadt,) in the month of August, 1839, was called into a consultation upon the health of a father and five children who had been poisoned by the use of bread containing lead oxide. On all the patients (Dr. Schilbach observed) an almost characteristic ash grey coating of the gums "at the part where they surrounded the teeth." No farther notice is taken of this appearance by Dr. Schilbach. The sentence above quoted, however, strongly confirms the accuracy of Dr. Burton's observations, whilst it in no way deprives him of the priority of discovery; and we have authority for unequivocally denying on his part any knowledge of Dr. Schilbach's paper previous to the discussion which took place at the Medical and Chirurgical Society.

TREATMENT OF ANEURISM.

In a recent number of an American journal (the Southern Medical and Surgical Reporter, for July 1839), is described a case of aneurism, two inches above the wrist, and as large as a pigeon's egg, which was cured by Mr. Richardson, of Savannah, Georgia, by passing a needle through the tumor, as recommended by Mr. Phillips.

It may be recollected that in 1834 there were 57 competitors for the Montyon Prize. The committee, however, in reporting upon them, says, "aucune ne lui a paru mériter le prix." It concludes, however, by stating that four memoirs should be honourably mentioned; at the head of which list stood, "The new method of treating aneurism, by M. Phillips, de Londres."

The Report concludes thus:—"Et si elle n'accorde cette année aucune récompense à ces travaux, c'est qu'elle désire qu'une plus longue expérience en ait suffisamment constaté l'efficacité et la valeur." We happen to know that some time ago Mr. Keate employed galvanism, in a case of carotid aneurism, as suggested by the same gentleman; and that Mr. Keate's opinion of its value in such case was favourable. We trust, therefore, that before long, Mr. P. may collect a sufficient number of successful cases to justify the Institute in awarding a prize for the invention.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Jan. 16, 1840.

Thomas Bell, Deepin's Gate.—W. F. Chorley, Leeds, Yorkshire.—S. B. Cowan, Bristol.—J. S. Wilkinson, Syston, Leicestershire.—G. N. Edss.

METEOROLOGICAL JOURNAL.

Jan.	Thermometer.		Barometer	
Thursday . 9	from 26	to 36	30·10	to 30 19
Friday . . 10	35	26	30·31	30·40
Saturday . 11	15	30	30·49	30·34
Sunday . . 12	18	36	30·20	30·14
Monday . . 13	21	37	30 06	29·86
Tuesday . . 14	29	43	29·84	29·94
Wednesday 15	39	45	30·02	29·88

Prevailing wind, S.W.

Except the 13th, generally cloudy. A little rain fell on the 14th and following day.

Wilson & Ogilvy, 57, Skinner Street, London

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, JANUARY 31, 1840.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.

Surgeon to the St. Marylebone Infirmary.

WOUNDS—*continued.*

Incised *Wounds: Treatment continued.*

Contused *and* Lacerated *Wounds: Peculiarities—Treatment.*

Gun-shot *Wounds: Their Characters—Varieties—Symptoms.*

Treatment.—In the treatment of wounds, however, very often more is necessary than position, strapping, bandages, and sutures. We seek to obtain union by "first intention;" if the inflammatory action be insufficient, or if it be more than sufficient, this effect may not be obtained; and therefore it is most important to excite it when insufficient, to moderate it when excessive. If the inflammatory action were first sufficient, it would be obviously improper to employ, on the one hand, irritating applications, and on the other relaxing ones. In most cases cold water is a good application, but if energetic local depression of vital action be required, irrigation will be found more effective. This irrigation may be accomplished conveniently by suspending a bottle of cold water in a proper position; placing in it a few threads of lamp cotton, one extremity of which should reach to the bottom of the bottle, the other hang out at its mouth: in this way you get a species of syphon, and a constant dropping upon the lint or linen covering the part. The part should, of course, be kept at rest. The mind should also be kept quiet; mental disquietude often exercises a very decided influence upon the healing of wounds. It is, probably, because the mind is quiet, that, in the operation of lithotomy, nine children out of ten do well; it is probably why, in brute animals, wounds generally do well. Certain persons are more irritable or excitable than others, and in those, wounds often do ill. Thus, in wounds of the head, it is important that the eyes should not receive the impression of light. In bad wounds, noise is often prejudicial; thunder, or a discharge of fire-arms, has been known to excite tetanus. Moral and physical quiet are, in many wounds, most important.

With respect to food, I think the common practice incorrect. I rarely diet rigidly after operations; I think it is often injurious. I feed carefully until traumatic fever is developed; I then lessen the quantity of food until that subsides, then recommence the proper diet. The ordinary treatment is different: the diet is very rigid until free suppuration takes place. I support the opposite opinion, because I have seen the bad effects of abstinence after great operations or wounds. My plan is, to let the patient's diet be much what it was before the injury, even though it might be objectionable; and this I do upon the Hippocratic principle, that bad things, when habitually taken, often do better than good things to which the patient is unaccustomed. When a patient is suddenly subjected to rigid diet, the biliary secretion continues to be poured into the intestine, and in many cases irritates it. I would not wish you to stuff your patients, but I wish you to feed them moderately. There are patients affected with worms; if you place them upon a rigid diet great intestinal discomfort will be experienced: give the patients food, and these discomforts will be dissipated. In hospitals it is especially necessary to direct attention to these things, because your orders are more clearly carried out than in private families; and I believe

it is because such orders are not strictly carried out that wounds often do better at home than in hospitals. Do not, therefore, ride the abstinence hobby too hard; let your patients have a moderate quantity of digestible food.

It is very important to attend to the state of the bowels: when a patient is constipated, the abdominal circulation is troubled, the general circulation is accelerated, and there is often headache. It is never well, in large wounds, that there should be much effort to go to stool. A surgeon of great eminence, not many years ago, operated for stone: after the operation, he did not inquire as to the state of the bowels; for ten days all went on well. The patient strained in endeavouring to go to stool, burst a blood-vessel, and died of hæmorrhage. Quiet and regimen—are they always sufficient in all wounds? Must we sometimes bleed? If the patient be strong, but has lost much blood, the face be pale, and the loss seem sufficient to prevent febrile reaction, it is clear that we should not further deplete. It is the same in a debilitated constitution, even when little blood is lost. In both cases bleeding would be injurious. If, however, the patient be in rude health; has lost little blood; has a large deep wound; a hard quick pulse; a heavy head; a suffused countenance; the indication is manifest: to spare blood-letting would be a fault; the quantity of blood circulating in his veins should be diminished.

An incised wound may not heal by first intention; it may suppurate: when we remove the dressings by which we had hoped immediate union might have been obtained, the wound is gaping, and a puriform fluid may be seen; sutures, if any, may be at once removed, or they will give way; if, however, it be a great object to keep the edges, as nearly as may be, approximated, they may be left unless they excite irritation. In these cases the edges will never be brought to touch each other, but granulations are developed; a tegumentary membrane ultimately covers them; it thickens, becomes redder, but ultimately acquires a whiter colour than the adjoining tissues. This membrane is at first slowly formed along the edges, more rapidly as it approaches the centre, and appears to drag the edges of the wound towards the centre, so as to lessen the surface. This tissue never acquires the character of the cutaneous integument, has no papillæ, and is a cellulo-fibrous and vascular tissue.

Tactile sensibility is less remarkable than in the skin. Sometimes, either from negligent dressing or other cause, cicatrization is badly done; the surface is puckered; these cicatrices are not only disagreeable to look at, but often they interfere with the motion of parts: these are seen most frequently in burns.

In all cases, the present system, in my opinion, is, to interfere too much, to dress too often; when a wound is dressed it should be left for many days; until, in fact, the dressings are very wet with the fluid secreted by the wound, or very offensive, or pain or uncasiness be felt. I am quite sure that the less frequently, consistently with the circumstances I have mentioned, dressings are renewed, the sooner a wound heals.

Contused and lacerated Wounds.—A lacerated wound may be produced by the bite of a horse or a cow, or any similar animal, by the action of a wheel passing over a part, by the action of machinery, or by any similar agency.

If an articulation be implicated the ligaments seem to give way first, the skin and muscles later: we can scarcely say the muscular fibres are ruptured; they are separated from the tendons, or the periosteum. In Mr. Langstaff's museum are the ends of two thumbs which have been torn off, with a long tendon attached to each, but no muscular fibres. Usually, however large be the blood-vessels ruptured, hemorrhage ceases spontaneously: that is owing to two circumstances: the vessels are almost always ruptured high in the substance of the mass, so that they are compressed on all sides, and the three arterial tunics being unequally extensible, are ruptured at different levels; the internal and middle give way first, and are therefore ruptured highest; the external, more extensible, bears considerable elongation before it gives way, and when it yields, forms a kind of cone, which is ruptured much lower than the others; it is retracted, twisted like a cork-screw, and effusion of blood is prevented. Usually these wounds are not very painful, and the consequences are often not serious. It rarely happens that the pain is very acute; the patient is usually calm, and tetanus is very rare; suppuration occurs early, and cicatrisation soon follows. Many remarkable cases are on record, none more so perhaps than that of Cheselden; the patient was a miller, who had around his arm a rope which got entangled in the wheel of a mill, which was revolving rapidly; he was raised from the ground until his body was arrested by a beam which prevented further ascent; the wheel continued to revolve, and the arm and scapula were separated from the rest of the body. He was unaware of the extent of his injuries until he saw his arm moving around on the wheel; there was no bleeding, he was able to walk down a ladder, and walk some steps to look for assistance. He got well in two months. We shall now proceed to consider contused wounds, which are often very

similar to those on which we have been speaking.

Contused Wounds.—Contused wounds are produced by blunt bodies moved with more or less velocity; they participate of the nature of contusions and of ordinary wounds. The contusion is sometimes superficial, limited to the skin and subcutaneous cellular tissue; it may be more intense, and implicate the whole thickness of a limb. Sometimes it appears trifling upon the surface, while it is severe underneath; in these cases the superficial parts have yielded, while the deeper-seated parts have resisted. A rounded body strikes the abdomen obliquely; there is no trace of contusion on the skin; even the muscles are only slightly contused; yet there may be rupture of the aorta, the vena cava, the liver, or the intestines, and sudden death. When the contusion is slight it leaves few traces, and scarcely any pain; when severe there is ecchymosis, pain, tumefaction. If you dissect a recently contused part, when you cut into the cellular tissue it is more or less gorged with blood; in some cases the blood is still liquid, many vessels are ruptured; if you carefully examine you find a certain quantity of laceration. Upon the surface the discolouration is soon seen, and it terminates in a yellowish areola; these clots of blood are not always absorbed, sometimes they break down, become painful, and require operation for their removal. The quantity which may be absorbed is sometimes enormous. When the contusion is accompanied by a wound it may be regular, and the edges may be very little ecchymosed; they may be jagged, infiltrated with blood; and if it be narrow there may be extravasation of blood in the thickness of the parts. All contused wounds are not painful; but if the contusion be severe there may be absolute insensibility of the part; it may produce a state very like the death of the part. Lamotte describes a case where a billiard boy was struck on the arm with the cue, so severely, that his arm seemed dead for ten days; it was only at the end of that time that heat and sensibility returned to the part.

In a contused wound it is sometimes difficult to determine whether the tumefaction depends upon inflammatory action or extravasation; generally the extravasation of blood is immediate, or nearly so; the inflammatory tumefaction is not usually much developed for twenty to forty hours.

In some cases the edges of a contused wound will heal without suppuration, but it is not usually the case. In some instances the inflammation is so violent as to destroy the patient before gangrene is developed; in others, the suppuration is excessive, and the patient dies exhausted.

Treatment.—The important question to be considered is, how are these wounds to be treated; should we attempt union by "first intention?" No general direction can be given on this subject; nothing is more variable than such wounds; a part of such a wound may heal by "first intention;" another part will suppurate; this usually depends upon the degree of contusion. As these wounds, when left to themselves, almost always suppurate, it is desirable in many cases to seek to prevent, in others to confine it within narrow limits. If simple, it should carefully be cleaned with a fine sponge and warm water, to remove coagula or any other foreign substance which may adhere to it; then bring it together with strapping or suture. If you can bring together parts whose contact will not irritate, you will do better than by interposing lint or any similar substance. Depend upon it, a flap is, for the part from which it has been detached, the best topical application that can be made. Supposing the parts to be so contused that union is almost impossible, still you may bring the parts together, and gently support them with a bandage; but it should be carefully watched.

In France, Pelletan used to stuff these wounds with "charpie;" Dupuytren brought them together partially; Boyer completely. In these cases simple cold water irrigations are often very beneficial. Undoubtedly one of the best means of preventing inflammatory accidents in severe cases is general bleeding: leeches in the vicinity of such wounds I do not like; they frequently seem to increase inflammatory action, and often occasion erysipelas. In these wounds, spite of bleeding, rest, careful dieting, and attention to the bowels, gangrene will sometimes occur: in such cases warm emollient poultices will be useful: tonics to the wound and internally are in cases of gangrene in contused wounds usually improper. If it be limited to the integument the sloughs will come away in due course. These sloughs are not always dark. If the contusion be very severe you should not think of amputation until all hope is lost; first, because we should always endeavour to avoid mutilation; second, because these amputations are often fatal.

Surgeons of great experience have been in the habit of applying aromatic and spirituous substances to contused wounds, but now they are abandoned. At present men's minds seem to be divided between emollients, narcotics, and sedatives, but cold water is in most cases preferable to either: the necessary means should have been taken for bringing together and dressing, before the cold pads are applied.

Gun-shot Wounds.—Although as civilians few of us can have had much opportunity of

seeing gun-shot wounds, they are held to form a necessary part of a course of Lectures on Surgery. We must therefore conform to the ordinary arrangement, by giving a condensed account of these injuries. The only opportunity which I have had of observing these wounds, was at Paris, in 1830, and although that experience would be insufficient to justify me in founding a consideration of these injuries upon those events, yet it affords me a means of testing the views of others, and selecting those which experience convinces me to be the soundest views on the subject. This class of inquiries found little consideration in surgical works before the 15th century, but even in the 16th they were regarded as poisoned wounds, and also as burns. In accordance with these opinions the two indications presented were, to cure the burn and to destroy the venom. Sprengel states his belief that to Paré and to Maggi must be attributed the change in opinion as to the burn and the poison.

Under the term gun-shot wounds we include all wounds caused by projectiles propelled by gunpowder. A gun-shot wound may perforate the integuments at one or two points; that is, the ball may have remained in the body, or escaped. Where there are two openings they may be directly opposite one to another, or they may have no apparent correspondence with each other. The direction of a ball, when losing its velocity, may be changed by many objects—by a bone, a tendon, or even an aponeurosis. A cavalry officer at the battle of Dresden was struck by a musket-ball on the outer ankle; there was only that single wound on the limb, but the ball was extracted from the middle of the thigh. Under certain circumstances a ball may be reflected at a very acute angle. Marjolin mentions a case where two officers, whilst engaged in the chase of the wild boar, quarrelled; a meeting was, in consequence, fixed for the next day. During the chace, by chance, they were both together—a boar passed, one of them fired, and his adversary fell dead. Suspicion at once fixed upon the survivor the wilful destruction of his adversary. An old military surgeon was present, and knowing the effect of hard substances upon the course of bullets, carefully examined the place, and found upon an old oak, about the height of a boar, a very hard knot which bore the mark of the bullet. A spent ball may strike the anterior surface of the thigh, and may escape posteriorly, without passing through the muscles. In the attack upon Newport a man was shot in front of the chest; the ball was found behind, but it did not penetrate that cavity. It may be received in the forehead, and extracted from the occiput, but without penetrating the skull.

Usually, a gun-shot wound has the form of the body which produced it, whether round, square, or oblong; but when there are two openings, that by which it has entered is almost always smaller than that by which it has escaped; its borders are depressed, whilst that of escape are raised like a tumor. This happens because at the time of entering the velocity is greatest; but this is open to numerous exceptions—the ball may not have penetrated perpendicularly to the surface, may not have lost velocity. If a ball strike against a bone it may be changed in form, may be flattened, may be shattered, or cut into two or more pieces. In the case of Serjeant Daly, at Newport, one slug appeared to have penetrated, but it was shattered into many pieces upon the os frontis. When balls are ill cast they often contain air, or, when the lead has not been poured into the mould continuously, this may happen—a ball may break into several pieces. One portion of a ball may, therefore, pass out; another portion may remain in the part: consequently, the existence of the openings should not prevent your examining whether any portion still remain in the wound. Some authors deny this division of balls, and maintain that, in such cases, the piece must have been loaded with two balls. The shortest answer which can be given is to say, that two balls shot out of a gun never penetrate at the same point. Wherever you find that there is but one opening through which a ball passed into the body, and you find only one half the bullet, the chances are that the other half still remains, unless indeed half bullets were used.

In many cases bullets do not penetrate alone, but carry portions of dress or wadding with them; therefore it is necessary to examine carefully the clothes of the wounded person. When a ball has lost much of its velocity, it rarely makes a fair hole in the clothes, but carries a portion before it into the wound. These wounds are usually superficial, and in undressing the ball may be extracted, with the article of dress which it has carried before it. We may, then, have a wound in which no bullet is found; it is therefore very necessary to carefully examine the clothes.

When a ball falls, at the end of its course, it is not at rest, but revolves with extreme rapidity; and if a person attempt to take hold of it, he may suffer severely.

The contusion produced by such bodies may extend to attrition: the course of the wound is livid, and this colour is owing to the disorganization of the part, and to the blood extravasated into the cellular tissue; formerly, it was supposed to depend upon the burn occasioned by the ball. In the present day we know that the temperature of a body projected by gunpowder is not raised during

its course; it is not heated except it come in contact with a very hard body, against which it is flattened. These wounds are rarely very painful at the time; the sensation usually felt is a numbness—but that stupor may be so great, and extend so far, as to destroy life. They usually bleed little, especially when the divided vessels are small; hæmorrhage would seem to be prevented by the bruising of the parts and the retraction of the extremities of the vessels. When large vessels are partly divided there is sometimes hæmorrhage; when the section is complete frequently there is no hæmorrhage. If the eschar be not soon thrown off there may be no secondary hæmorrhage; and if you have an opportunity of examining the case, you will find both ends of the artery obliterated. In many wounds where a limb has been carried away near the trunk, by a cannon-ball, there is no bledding. Gun-shot wounds are rarely healed by first intention; there is attrition—there must consequently be sloughs and suppuration. No contused wounds are so dangerous as these, and this it was which induced the old surgeons to suspect poison.

A fatal wound may be inflicted, though the fire-arm contain no projectile; but then it must be fired off very near the person. A soldier wishing to destroy himself was suspected—his pistols were examined, they were loaded with ball; the balls were extracted by his comrades. He put one of the pistols in his mouth, fired it off: it burnt the tongue, blew out some of the teeth, fractured the jaw, and he died on the third day from cerebral concussion.

The wadding, if firm, may cause a mortal wound: usually it is intercepted by the dress, but now and then it penetrates to a short distance, and remains in the wound. It should be promptly extracted, or it may cause much irritation, and may remain in the part for years. In these wounds the stupor of the part and the concussion are less decided than in bullet wounds. A very brittle or soft body may equally penetrate: you may fire a candle, at thirty paces, deep into an inch board.

There is an important class of wounds about which it is necessary I should speak: those deep-seated and serious contusions sometimes produced while the integuments, over the part appears uninjured; formerly supposed to be produced by the "wind of a ball." It is hardly necessary for me to lay before you the different theories upon which that opinion was based. Certainly the facts prove that the disorders observed do not result from a contusion produced by the displacement of a column of air. Many curious facts are recorded by military surgeons to demonstrate the impossibility of such injuries. The only reasonable explanation of such injuries is, that the ball has struck the integuments very obliquely; the skin yields, the deeper seated parts resist. Whatever the explanation, you must accept the fact—that the skin may be comparatively uninjured, while deeper seated parts are very seriously damaged.

Wounds caused by the bursting of fire-arms; we often see they are very variable; usually it is the left hand which suffers: the manner in which the piece is held also determines to some extent the situation of the wound—some persons grasp the barrel firmly with the hand; in most cases the injury falls between the thumb and fore-finger; it may lacerate this part, may blow off the thumb. Sometimes the superficial palmar arch is injured, and there is much hæmorrhage; at others the ends of the artery retract, and the bleeding is trifling. The surface is red, not black or livid, as when the part is struck by a bullet. If the articulations are uninjured, these wounds often do well without mutilation. Even when the thumb and indicator finger are blown off, it will often do well. If a joint of the finger be opened, should we attempt to save it, or should we amputate at the joint, or in the continuity?—According to the importance of the part should we anxiously seek to preserve the part. Some of these wounds will heal. If all the fingers are carried away, the thumb itself being wounded, we should endeavour to save it because of its usefulness, even though the stump be irregular. Occasionally the wrist is affected: if the wound be slight, whether penetrating the joint or not, every effort must be made to save the hand; but if the injury to the carpal bones be great, amputation will be necessary. Dupuytren had an idea that amputation of the hand should hardly ever be performed in cases of wounds of the wrist; in this I think he is wrong—I have known lives lost in the endeavour to avoid such amputation. It is, however, very difficult to define the cases in which the operation is absolutely required.

Symptoms.—I have said that, generally, gun-shot wounds are not painful; the hæmorrhage is usually trifling: the diameter of the opening is no exact criterion of the diameter of the projectile: the edges are of a blackish red colour; this colour depends upon the attrition of the flesh, and the infiltration of blood. The symptoms which accompany them are primary or secondary. Among the primary symptoms are hæmorrhage and concussion; the first is usually trifling, but it may be enough to destroy life. It is the belief of many military surgeons that of those who die on a field of battle, a large number die from hæmorrhage. The concussion is a consequence of the shock inflicted upon the part; it may ex-

tend to a considerable distance—may be very severe when a hard part is struck, such as the cranium. It may produce a state of stupor of the part, from which the patient may not recover. It was so in the case of the soldier described by Quesnay; in him the hebetude was so great that when amputation was proposed to him, he answered that it was no affair of his. This stupor is the state in which a part of the body has almost entirely lost sensation and motion. In a limb so affected the circulation is almost or altogether arrested; the temperature is much depressed. If you cut into a part in this state, even at some distance from the seat of injury, blood does not flow. When this state extends beyond the injured limb it is then general. Frights will sometimes produce similar accidents: the face is pale, decomposed, covered with cold sweat, and the power of speech is lost. In 1814 a man was picked up in this state on the field of battle who had not a scratch about him; he was senseless for more than two hours. Sometimes instead of stupor we see spasm or general tremor; sometimes rigors: the skin is corrugated, the pulse is hard and small, the countenance pale, and covered with cold sweat. When these symptoms are owing to fright or passion, warmth and stimuli will soon dissipate them. If the concussion extend to the liver there is often icterus. Tetanus may supervene immediately upon gun-shot wounds.

The hæmorrhage most to be feared is consecutive, for then we cannot get at the vessel; and if we could, the tunics will be so softened by inflammation that a ligature will at once cut through them. These hæmorrhages may occur from the seventh to the fifteenth day after the accident. In these cases all that remains for us is ligature at a distance, or amputation; and it is often difficult to decide between them: when the limb is much injured amputation may be preferred, because gangrene in such cases is apt to supervene after the ligature. Amputation itself is uncertain in its results, in a patient enfeebled by pain, suppuration, and constant small hæmorrhages.

OBSERVATIONS ON CLINICAL INSTRUCTION;

The substance of an Introductory Lecture to the course of Surgery, at Sydenham College School of Medicine.

By Rutherford Alcock, K.T.S. &c.

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An introductory lecture, gentlemen, is usually devoted to general observations on the profession, on the importance of medicine as a science, and its value to society. The history of medicine furnishes the details by which these propositions are demonstrated and enforced. There are many cogent reasons for departing from this routine, not the least of which is the conviction that you will probably hear many such lectures from others, better able to do the subject justice. I shall devote this hour, therefore, to a matter of some importance to you—too much neglected generally in the course of your studies—to a subject therefore not likely to be a mere repetition of many other introductory lectures, and calculated, I believe, to be of considerable utility.

My object is to offer you some observations on the best mode of acquiring an accurate knowledge of diseases by their symptoms, the chief end of all professional studies, without which there can be no safe or successful practice; for this knowledge is indeed the basis of all good treatment. The action of remedies may be comparatively soon acquired, and by reading chiefly, with the aid of a little observation, but the tracing symptoms to the disease, effects to their causes, is an effort not only requiring intellect and habit, but long and well directed labour bestowed in observation at the bed-side. So essential is the proper direction of this labour, that I do not believe the ready and unerring tact by which a good surgeon or physician at once fixes upon the true source of mischief, when called upon for the diagnosis of a case, is ever acquired without it. No attainment is of so much importance to the welfare of the patient, and to the worldly and professional success of the practitioner. On the investigation of disease then, or, in other words, on the means by which this power is obtained, I shall lay before you such observations as I trust will give a right direction to your labours, and thus shorten their duration. We lose generally far more time in acquiring knowledge of the right road, than in traversing it when once discovered to the desired end.

A knowledge of disease is to be acquired and extended by different ways; by two chiefly. The one is, by investigating the effects and the changes of structure by dissection, called morbid anatomy—the other, by the investigation of these changes and results by their symptoms during life. It is to this mode of studying practically your profession that I would now direct your attention. It may be observed that I speak not of surgery only, but of all disease, and designedly, for thus early would I impress the conviction that knowledge of the whole is essential to the scientific and successful practice of a part. The apparent non-recognition of

this principle by our various collegiate and corporate bodies, who issue their diplomas or licenses to practise in a particular branch of the profession—sending forth so many surgeons, physicians, and apothecaries, all examined only or chiefly in what relates to that single branch—seems to publish and inculcate a contrary, and, I think there can be no doubt, an erroneous doctrine.

In other countries, in France for instance, one diploma, the highest according to the present modes of estimation, that of M.D., is conceded at the close of the medical studies, during which care has been taken to insist upon a competent knowledge of all the different branches; and thus it ought to be in all countries. Any of those arbitrary divisions of the profession into physicians, surgeons, accoucheurs, oculists, aurists, &c. would only then obtain to the extent suggested by the multiplication and subdivision of labour to which a high civilization ever gives rise: it would be independent of any peculiar bias or deficiency of education, and hence would flow one inestimable advantage at least, that none could legitimately presume to take her majesty's liege subjects even by the ear without the necessary qualifications for conferring benefit. That we are advancing to this desired improvement I can have no doubt; it may be some time yet, but the conviction of its necessity is too universally spread for it to be long delayed. We have indeed made rapid steps towards it. A surgeon, who studied some thirty years ago, lately assured me that if he ever at that time followed the physician in his rounds through one of the large metropolitan hospitals, he was browbeaten by the learned doctor, who, with a sneer, wondered "what a surgical student had to do with physic!" No surgical student can now obtain his diploma from the College without having attended lectures and an hospital for the practice of physic, and I anticipate, with certainty and pleasure, seeing the day when none may practise any branch until he has proved a competent knowledge of all. In the meantime, however, while this may not be required by examiners, let me take this opportunity of urging you to study all, to study the science in its most comprehensive sense, and eagerly avail yourselves of every opportunity of acquiring knowledge in every branch, even should you have predetermined to practise but one. Become afterwards, surgeons only—accoucheurs, oculists, aurists, or mesmerites, if you will, but carefully protect yourselves from the possibility of a charge that you were educated for the practice of one alone, a reproach which will daily grow more serious and detrimental to your success, as the conviction in the public mind becomes stronger of the dangerous and erroneous tendency of the present system.

But to return to the investigation of disease: it would be easy to shew you that to the accuracy and method introduced of late years in this art, and part of the profession, may be attributed much of the improvement in surgical, no less than medical practice, far more than to the physiological discoveries, great and valuable as they have been, or to new remedies or previously unknown methods of treatment. From the accurate knowledge of the different forms and combinations of disease, and the power of distinguishing them during life, must necessarily flow the most scientific applications of all remedial agents, and a consequent great improvement in treatment and its results.

I have said that the acquirement of that tact in recognizing diseased actions which forms the leading trait in all of great professional eminence, which in its exercise seems like instinct, so rapid and unerring in its application, is always the result of great labour. The method of acquiring this power is most important; it is best to be attained by a well digested order and method of inquiry, superadded to an accurate and tolerably comprehensive knowledge of structure and disease generally. For the latter, which would seem to include all, by no means suffices to make either a good physician or surgeon; a mature plan of observation, often tested and repeated by the bed-side, can alone confer the crowning gift. Nor is the same plan of observation adapted to all ages and sexes, or to all diseases. The necessary labour is materially shortened by directing the attention to one series of facts, in preference to another. In childhood and in old age—for here, as ever, extremes meet—the diseases are chiefly those of the nervous system; when they are not so, they are ever marked by a strong tendency to create injurious impressions and actions in the cerebral system. In youth it is the lungs, the whole apparatus of respiration, and such functions as are more immediately dependent, the seat being chiefly in the lungs. In maturer age it is, on the other hand, the liver which is most prone to disease, and the organs and functions more or less directly connected with it are those which sympathise or share in the diseased action. In the female, most important organs and functions, greatly influencing the whole system, are superadded, and become, after puberty, a most fruitful source of diseased actions throughout the body. There are certain leading classes of facts which indicate so many routes of inquiry, the steps of which are

variously arranged in distinctive order and relations. By following each of these paths, in their legitimate connexion, an accurate conclusion is arrived at as to the seat of disease, and the parts or functions involved directly or remotely, with a rapidity, and yet a certainty, that, to an unpractised observer, seems little less than marvellous: you will readily conceive that if a disease be seated in the lungs, to look for the links of its action in the cerebral system and functions must be a great loss of time; and although the inquirer may ultimately arrive at the true source of disease, and all its dependencies, it can only be by a most laboured and circuitous route. By these general remarks I would lead you to the conviction, not only of the necessity of design in your investigation, of order and method in its prosecution, but of the importance and value of classification; at first large and simple, and afterwards more minutely subdivided, of the facts of pathology. Above all, I would impress upon you the clearness of views, and diminution of labour, which is the result.

This cannot be more strongly exemplified than by a reference to the present state of natural history and science, making up the sum of our knowledge of nature—for natural history furnishes all the materials—science all the laws by which they are governed; as pathology furnishes the materials of disease, so does the science of medicine give the laws by which they are developed and controled. We find that four great truths explain the majority of the phenomena of nature, and it is impossible not to admire the wonderful simplicity attained in the knowledge of a seemingly endless variety of materials and results, by long-continued and close observation, seconded by classification and arrangement. This high simplicity has been slowly obtained, and the labour of ages has been required to simplify the laws, and arrange the constituent materials of the universe; it was even long probably before men ascertained that the infinity of objects, animate and inanimate, was only a repetition of a certain number of kinds, and by tracing resemblances, were enabled to reduce them to large classes or families. Many a giant step lies between that first beginning and the present state of things, when the laws may be said to be reduced to four, and within the boundaries of a museum and garden a student may examine the constituents of the whole material universe.

We have not arrived at this stage in medicine; yet will this glance serve to explain how we have advanced, and how we may best attain, the same end. As in physics and natural history, so we find in medicine, that the infinity of diseased actions, effects, and symptoms, are only a repetition of a certain number of kinds, and that the careful observation of resemblances and differences have enabled scientific men to reduce them to large classes or families; so that by studying an exemplar of each kind, a limited power of memory will suffice for the acquirement of a comprehensive and correct knowledge of the whole: Were they studied otherwise, no memory ever vouchsafed to man would enable him to attain the same result. In an hospital you have the advantages possessed by the student, of the constituent materials of the universe; you have examples of each kind brought within a limited space, to study and examine; the whole domain of diseased actions, and their remedies, placed under your eye. There you have the power of studying the resemblances which form diseases into the same class—differences which constitute separate kinds; and by this study, aided by the classification effected in the course of ages of observation, with little comparative labour, you have the opportunity of acquiring such competent knowledge of all disease as shall enable you at once to recognise an example when presented to you, and refer it to its proper class.

But, again, neither books nor lectures will give you this power: they can direct your labour—save you from many sources of error; they can impress upon your memory many distinctive features which otherwise might escape your attention, but you must study each form as it exists in life, if you would ever attain, in any high degree, the power of discrimination: need I again add, the power on which all good treatment and any success in practice must depend? The investigation of disease is a science to excel in which requires knowledge at once extensive and accurate, together with a strong exercise of the reasoning and observing faculties. Its result, you have seen, is to effect in medicine that which you have mastered in natural history and physics; namely, the analysis of differences and resemblances, and their classification under proper heads, referring each to its true cause and site; to the laws which govern its development, and give the means of control. It is to discriminate cause from effect, and by close analysis, to trace all the links which intervene. Therefore it is, that in proportion as this art is successfully cultivated by each practitioner, will be his power of diagnosis and success in treatment. The importance and application of these truths will often be made evident, as the course advances. I trust these observations will

have sufficed to show you the principles on which this study ought to be prosecuted; and in glancing at these tables, I shall better explain how they may be practically converted to every-day use, and applied in the wards of an hospital, or wherever you may have the opportunity of studying disease:—

DISEASES OF CHILDREN.

Date, name, age, residence, nursed by, food, clothing.

Previous Diseases.

History of present Complaints.

General Observations.—Complexion, eyes, hair, head, chest, belly, limbs, ossification, muscles.

Present State.—Skin, texture, colour, temperature, moisture or dryness, eruption.

Countenance, &c.—Eyes, vascularity, pupils, position, gestures, senses, sleep, temper, &c.

Respiration. — Full inspiration, voice, cough, examination by the stethoscope.

Circulation. — Pulse, local determinations.

Nutrition.—Appetite, saliva, tongue, &c. Dentition, bowels, excretions, No., colour, consistence, smell, urine, intellect; dentition began; began to walk; idiosyncrasies, other symptoms; examination of the regions, assigned cause of present illness.

General Directions.—Diet, clothing, temperature, exercise.

Treatment.—Medical or surgical, prognosis.

DISEASES OF ADULTS.

Date, name, age, occupation, residence.

History.—Assigned cause.

General Observations.—Person, mode of living, previous diseases.

Present State.—Position, countenance, eyes, skin, tongue, appetite, bowels, biliary secretion, urine.

Respiration. — Full inspiration, voice, cough, expectoration, examination by the stethoscope.

Circulation.—The heart's action, pulse, local determinations, senses, state of mind, sleep, idiosyncrasies, examination of the regions of the body, &c., aided by the stethoscope, when necessary. Other symptoms.

General Directions.—Diet, &c.

Treatment.—Prognosis.

Observations relating to the Sexes.

In the Male.—Symptoms or peculiarities.

In the Female.—Uterine functions, &c. Menstruation, period at which menstruation first took place; period of cessation, if arrived or past; if married, the number of pregnancies; number of births at full period; number of abortions; whether children suckled by mother; state of the mammæ; other symptoms.

Reasonings and Inductions.—What is the affected organ? are more organs than one implicated? if more than one, what are the essential, and what the accidental circumstances? can the cause of the disease be certainly traced? what functions are deranged? what is the nature of the disease? is there any derangement of structure? to what other diseases does the present bear analogy, so as to endanger error? what are the grounds of diagnosis? of prognosis? is the disease remediable? what are the indications of treatment? by what means can these indications be most effectually fulfilled?

I have here selected tables showing the order and method of inquiry at different ages; that is, in childhood and maturity. In special diseases, as injuries of the head, gonorrhœa, and syphilis. These might be multiplied, and so adapted to all the different large classes of disease, and during your clinical study this ought to be done. To state the particulars of a case thus scrupulously and minutely, no doubt appears to you a very laborious and tedious proceeding, but I beg of you, gentlemen, to rest on my assurance, that the facility and power it ultimately confers of rapidly and mentally collecting and judging of all the important points of a case, will surely repay you the labour, were it ten times greater; add to which, it gives a vividness and accuracy to all the results thus obtained, never to be lost, and I doubt much if by any other mode they can ever be acquired. I began the study of disease myself in this way, under the superintendence of a relation, who has already published two of the skeleton tables; and I have ever felt grateful to the judgment that insisted upon my scrupulously adhering to them at the commencement.

Time will not permit me here to enter upon any lengthened detail of the various circumstances to be observed under the heads indicated in the tables for the diseases of children and adults, which I regret the less, that these are fully explained in the late Mr. Alcock's lectures on surgery, which you will find in the library of this school, and to which I would earnestly recommend your attention, as abounding in practical observations and valuable directions connected with the investigation of disease. Relying therefore upon your obtaining from that source all further information necessary to guide you, I pass on to the tables of specific diseases. It is now many years since, that in making particular study of the injuries of the head, and wishing to compare a number of cases, I found the necessity not only of keeping all my notes in one form, but that I should, by a certain and pointed order of inquiry, secure precise data, and

upon the same features, in all cases. The advantage I derived from adopting a table, directing and securing my attention in every instance to the same data, it is difficult to convey adequately to you. I may observe, however, that at a later period, wishing to place in order the various conclusions to which this study had led, to verify them to my own satisfaction, and prove their correctness to others, this defined order of observation in a large number of cases recorded, enabled me to do it with a facility and certainty, that I felt not only rewarded me for all the previous labour such process had entailed, but furnished me with evidence no other plan would have been likely to secure. Without some definite order of inquiry you will find, on looking over a large record of similar cases, that when you wish to compare them, the analogy in causes and effects you may wish to prove is continually rendered incomplete by the omission of some one or more links in the chain of evidence, which, however unimportant they may have seemed to the history of the individual cases, are essential to the chain of reasoning or conclusions which often can only be established by a number of parallel and similar facts under similar circumstances.

INJURIES OF THE HEAD.

Name, age, temperament, previous health, occupation, present state, mode of accident, nature, site, and degree of injury.

Animal Life, or Cerebral System.—Consciousness, perception, (cerebral sensation), volition and motion.

Organic Life.—Ganglionic, or nutrient and secretory system, and the excito-motory, or true spinal system; respiration, circulation, secretions, state of the sphincters, the iris: progress of the case, termination, (and if by death) sectio cadaveris.

Thus, then, with reference to this table; the age, temperament, occupation, and previous health, are all points of so much interest, influencing so greatly the progress and results of head injuries, that without a knowledge of them it is often impossible, even in the history of a case otherwise minute, to decide how much the effects may be attributable to some one of these circumstances, and how much to the injury.

The mode of accident, the nature, site, and degree of injury, are so obviously important, and, as it were, fixed data from which the case is to be traced on to its termination, that we might as well pretend to describe the course of a river without alluding to its source.

The present state of the case, that is, when first seen by the narrator, must be observed and described in a certain defined order, and the attention directed to particular functions. These I have divided into those, 1st, of animal life, or the cerebral system; 2nd, of organic life, including not only the ganglionic, or the nutrient and secretory system, but the excito-motory, or true spinal system.

Under the first—consciousness, perception, cerebral sensation, (in contradiction to the apparent sensation which conveys impression to the true spinal system, from which reflex motion may be induced without the exercise of will or consciousness in the cerebrum), volition and motion resulting. These are indeed the chief functions of the cerebral system, the most easily examined and accurately ascertained, the sum of which clearly give the state of the cerebral system, and the degree in which it may at the time be implicated.

The functions in a great degree, independent of the cerebrum, and intimately connected with, and controlled by, the ganglionic and true spinal systems, form the next subject of inquiry. These include the respiration, circulation, secretion. Respiration, and the discharge or retention of the secretions, are signally influenced by the excito-motory system, which guards alike the inlets and outlets of the body. If its power be impaired, the glottis falls upon the rima glottidis, and there is difficult and stertorous breathing, from the mechanical closure of the orifice. The same impaired power relaxes the sphincter ani, but then the relaxation naturally opens the orifice, which in vigour it closes, and there is involuntary discharge of fæces; hence too you rarely find the one effect without the other, when there is cerebral injury or disease. The iris comes under the same class, and its relaxation follows impaired power; a widely dilated pupil upon this principle is a general concomitant of severe head injury, producing impaired power in the excito-motory system generally.

All the facts connected with these heads give the exact state of the patient, and in such order and method that it at once strikes the eye which of the systems or nervous centres—the first and primary seats of injury—are affected, and in what degrees relative and positive.

The progress of the case noted each day or oftener, but always with reference to the same order and points of interest, on to the termination, furnishes the means of judgment on all essentials, at any period, however remote; and at the same time are most valuable guides to diagnosis and treatment. If death be the result, the sectio cadaveris should leave no doubt as to the material effects on the various organs, and the precise nature and extent of any lesion of structure in the brain or spine.

I am confident no one will carefully

study half-a-dozen cases of injury to the head, in this systematic manner, without feeling his knowledge of symptoms, effect, and progress, improved in clearness, accuracy, and extent; and without such method he may watch twenty without much improvement.

With reference to the tables for inquiry into the cases of gonorrhœa and syphilis, they have been framed in like manner to point the attention constantly to all the facts of real interest, and to prevent its wandering diffusely and vaguely over many of little or very remote importance.

Thus, the period the case came under notice, and the circumstances preceding the appearance of the disease, and its progress up to the time indicated, together with the previous treatment, previous diseases, mode of living, &c., so essentially modifying all disease, it is at once obvious, are important evidences necessary to a correct diagnosis of the nature and degree of the complaint.

The present state of health, followed by the present symptoms, passing in review the orifice of the urethra; the quantity and character of discharge; symptoms on passing urine, and frequency of voiding it; together with any other local appearances or occasional consequences—give, in fine, all the data required to form a correct diagnosis on which to found a well-devised plan of treatment, medical and surgical. Long experience enables the practitioner, in—I had almost said a few seconds, to satisfy himself on all these points. The way to obtain such valuable power is to begin with this table, and record, with care and accuracy, opposite each head, all the information obtained in reference to them.—Thus of

ULCERATIVE DISEASE.

Ulcers.—Name; age; admitted; since commencement of disease; progress; previous treatment; mode of living; previous diseases; present state of health; *ulcers*, number of, situation; *surface*, extent, form, colour, discharge; *edge*, relation to surface, relation to surrounding parts, form, colour, texture; *base*, extent, form, colour, texture; *peculiarities*, or other symptoms; general directions; treatment.

GONORRHŒA.

Name; age; admitted; since the commencement of disease; progress; previous treatment; mode of living; previous diseases; present state of health; present symptoms, now —— since the commencement of disease; orifice of urethra; discharge; symptoms on passing urine; frequency of voiding urine; local symptoms, or occasional consequences; treatment; general directions; medical or surgical.

The table for syphilis, venereal sores, only varies in the mode of inquiry as to symptoms. Thus the local appearances to be looked for are ulcers: their number, situation, and character, must be defined, and these minutely, in reference to the surfaces, edge, base, and any peculiarity not included in these. Upon such data in like manner should the plan of treatment be founded.

It is unnecessary to enter further upon tables—all founded on the same principle, admitting of similar application, and calculated to attain the same object, viz., the power of accurately discriminating disease in all its aspects, and obtaining in lucid order the data upon which alone scientific and judicious treatment can be founded.

By dwelling upon the grand simplicity manifested in the seeming endless variety of effects, proceeding from a few simple causes or laws, as demonstrated by the science of physics, and the ease with which the whole animal creation, the whole constituent materials of the universe, may be studied, within a few acres of ground, by the classification of millions of apparently different objects into a few large classes; one sample of each of which furnishes a competent knowledge of their distinctive characters, and, consequently, of the whole universe. I hope to have shown how the science of medicine can also be studied to the greatest advantage. The infinity of diseased actions and effects also spring from a few causes, are governed by certain and few general laws; and the multitude of apparently dissimilar actions and effects are but a repetition of a certain number of kinds, of which it is only necessary to be acquainted with all the distinguishing characters of an exemplar of each to understand the whole. As in natural philosophy, these results have been obtained by a constant process, an analysis of resemblances and differences, and of the relations between cause and effect, so medicine is to be acquired by the same mode. To assist in this analysis or investigation, I have endeavoured to show you how much the labour may be shortened, and the knowledge attained, be rendered more accurate and available by the use of certain well-devised plans of inquiry and modes of recording the results; these being adopted, to the larger classes or kinds into which diseases have been simplified.

In adopting natural history and philosophy for my illustrations of the value of analysis, arrangement, and classification, I trust I may have succeeded in directing your attention to the elements of that science for subsequent study. It has been well remarked that "as a general study there is no occupation which so much

strengthens and quickens the judgment." There is no study which, in so short a time, is capable of imparting so much valuable and scientific knowledge. To the importance of physics, as a basis and foundation of surgical art, all professional men are awakening; and no one can doubt for a moment the incontestable superiority which a knowledge of physics will give one medical man, and more particularly a surgeon, over another, who may practise his profession in ignorance of them.

In this lecture, then, I proposed a double object to myself; the one, to guide you in the method of prosecuting your clinical studies, so as to obtain an accurate and extensive knowledge of disease, by indicating modes of investigation and study at the bed-side; the other, to prove, thus early in your career, the value and importance of the study of natural philosophy and history, both to your reputation as scientific men, and to your success and usefulness as practical surgeons. Nor can I conclude without earnestly recommending to your study and perusal a treatise on this subject by Dr. Neil Arnott, for which the profession is much indebted, he having supplied them with a work particularly adapted to their use, and well calculated to advance the study of a science not yet sufficiently valued by the majority of medical practitioners.

I have been the more anxious to offer some little aid to your clinical studies, from the strange neglect of clinical instruction, properly conducted and carried out, observable in English hospitals generally. More may be learnt of the true nature, progress, principles, and treatment of disease, by three months spent in the hospitals of Paris, than in three sessions devoted to many of the London institutions.

This is deeply to be regretted; and I trust will not much longer continue. In the meantime, if you will act upon these observations, you will find, I think, that very much may be done by your own unaided labour—which, at present, few students attempt. Be assured, that wheeling through the wards of an hospital twice a week, in a crowd, to catch a stray observation from an hospital surgeon or physician, however eminent he may be, will never suffice for your clinical instruction, nor prepare you for the treatment of disease hereafter.

CASES ILLUSTRATIVE OF THE THILENIAN OPERATION; *With Observations.*

By Edward Weight, M.R.C.S.
Surgeon to the Wokingham Union, Berkshire.

(Continued from page 674.)

(*For the Medical Gazette.*)

Case I.—*Congenital Talipes Varus.*

James Larner, æt. nine, a stout, ruddy, and bold country lad, was born with a club-foot. His parents are healthy peasants, strong, and of large size. They have produced, in rapid succession, more than a dozen fine children. Only one of these, besides our present subject, was affected with any deformity. That child was a boy, and, like this, affected with talipes varus of the left foot, from his birth, but in a somewhat slighter degree. He was sent when young to the Oxford infirmary, and in the course of a year, with the aid of instruments, his foot was restored to the normal state. James Larner was also sent at an early age to the Oxford infirmary, and kept there for a twelvemonth under the use of the apparatus employed by the surgeons of that institution, but without the slightest good effect being observed upon the deformed limb.

Since that time, (a long period), nothing has been done for his relief; and he has been allowed to run about like other boys. The left foot now presents a very bad case of talipes varus, and is exhibited in the drawing, No. 1. The part of the foot which touches the ground is the dorsum of the cuboid bone, over which there is a bursa mucosa and a dense mass of cuticle. The heel is drawn up to a height of three inches above the ground. The foot is converted to a right angle, with a perpendicular, antero-posterior plane, drawn through the spine of the tibia. This is most remarkable when he rests upon it. The outer and anterior margin of the astragalus project greatly, and a large portion of the superior articulatory surface is obviously excluded from the joint. The cuboid bone is nearly dislocated. The articulations of the metatarsal bones and phalanges are susceptible of motion, as are indeed, to a greater or less extent, the ankle and tarsal joints. The boy has but very partial power over the flexors and extensors of the foot, those muscles being in an atrophied condition, and the altered conformation of the ligaments and articulatory surfaces present formidable diffi-

culties in the way of a restoration of the normal functions of these various joints. Perhaps the most dislocated of these joints is that between the astragalus and the tibia and fibula. The tendo achillis is rendered tense when an attempt is made to bend the foot upon the leg, or to straighten the inward curve. The common integuments on the inside of the foot are also rendered tense by the same movements. There is great convexity of the dorsum pedis, and the inside of the foot forms a conical or pointed arch, but the internal plantar fascia seems so loose, that its yielding to mechanical force is probable. In walking the boy does not employ the muscles of the leg at all, but moves exactly as if he had a wooden leg.

The length of the affected foot from heel to toe, is 6 inches and 5-eighths.

The length of the sound foot, in the same direction, is 8 inches and 3-eighths.

The girth of the tarsus of the sound foot is 8 inches and 1-third.

That of the tarsus of the unsound foot 9 inches. The breadth of the distorted foot is much less than that of the other, from which it will appear that its greatest diameter is from the dorsal to the plantar surface.

The vertebral column is affected with a slight lateral curvature, the convexity being towards the right side.

3rd June, 1839.—The tendo achillis being clearly the first obstacle to be removed, I this day divided that tendon with a common sharp-pointed curved bistoury. The boy being laid on his stomach in bed, and the tendon being made tense by an assistant, I introduced the blade of the bistoury on its side between the tendon and the subjacent parts, the upper surface of the blade being towards the tendon, and the under surface towards the tibia and fibula. The blade was pushed on till the point was felt on the other side of the tendon, beneath the integuments: the blade was then turned with the edge towards the tendon, and being withdrawn, all the fibres of the tendon intervening between the edge of the knife and the skin were divided. Some tension being still evident along the course of the tendon, the knife was re-introduced and plunged more deeply, when the remaining fibres were cut, and the existence of a gap, half an inch wide, as well as the general flaccidity of the adjacent parts, afforded proof that the solution of continuity of the tendon was perfect. The only sound perceived was the grating of the tendinous fibres on the edge of the knife; the loud crack occasionally occurring upon the complete separation of this tendon was not heard. About half a drachm of blood only was lost, and but a very small wound of the skin was visible. The edges of this were drawn together with a little adhesive plaster. A paste-board splint adapted to the shape of the foot was applied, with a view to maintain in contact the ends of the tendon, and kept in situ by means of an ordinary roller. The boy was placed in bed, lying on his side, and his leg bent and resting on the outer ankle. Ordered to be kept quite, to have low diet, and to take purgative medicine.

6 p.m. The boy says that he suffered slight pain for some time after the operation, but it has since disappeared, and he is now quite comfortable.

4th June, 11 a.m. The medicine has acted upon the bowels; he has now and then had a little smarting in the wound.

5th. He is quite free from pain, and has had a quiet night.

7th. The wound is not quite healed, but he suffers no pain.

9th. 11 a.m. Stromeyer's board, as constructed by Weiss, applied.

4 p.m. The boy has suffered great pain for the last three hours from the great stress of the instrument. When this was relaxed, he had instant relief.

10th. He has had a good night; some displacement of the foot took place in the night, from the slackness of the straps which bound the foot-board. These were tightened, and nearly the whole sole was made to touch the board. This occasioned some pain, and the straps were made a little less tense.

8 p.m. The machine fits well, and the boy is easy.

17th. The bandage removed; a slight improvement in the shape of the foot is obvious; it inclines inwards rather less. The attempt to straighten the foot and to reflect it on the leg is resisted, not merely by the distorted astragalus and cuboid bone, but also apparently by the tibialis posticus muscle, if not by the plantar fascia. He treads upon the sole of the foot, and walks (though very awkwardly) with the assistance of a crutch.

18th. The bandage and board re-applied.

29th. The foot is nearer the normal state; he treads upon the sole, and brings the heel to the ground, and the foot may be bent to a greater degree upon the leg; but a good deal of deformity yet remains, and the gait of the boy, when he makes his attempts at walking, is particularly ungainly.

18th July. The lad walks more freely, and the form of the foot is much improved since the last notation. The heel descends to the ground when he treads, but the curvature of the foot inwards is still considerable, and the projection of the os cuboides yet destroys the symmetry of the foot.

No. 1.—Larner's foot before the operation.

No. 2.—Larner's foot on the 10th of December.

The flexion of the foot upon the leg is still imperfect.

Having shown the patient in this stage to Dr. Little, that gentleman, with his characteristic liberality, examined the case, and was of opinion that the division of the tibialis posticus would much expedite the cure, of which he was pleased to say there could be ultimately no doubt.

21st. I divided the tibialis posticus about an inch above the internal malleolus. I made an incision about an inch and a half long in the common integument, and then introduced between the tendon and the tibia a straight edged French bistoury, with which I cut asunder the tendon. This part of the operation, however, was not effected without some difficulty, partly owing to the extreme slenderness of the tendon, and partly to the shape of the knife, which being perfectly straight maintained no hold upon the tendon. About two drachms of blood were lost. Immediately afterwards I divided the tendo achillis in the same manner as on the first division of the same tendon. The foot is bandaged, and the patient placed in bed, as on the former occasion. The colour of the muscles exhibited by the incision was unnaturally pale.

9 p.m. The patient complains of heat and pain in the wound over the tibialis posticus. He has a little nausea: ordered an aperient dose, and a diacetate-of-lead lotion.

22nd. 11 a.m. He has had a good night. The heat of the foot is diminished; he has no pain unless he attempts to move the toes. He has occasional subsultus of some of the tendons.

9 p.m. He is fast asleep; his bowels have acted freely. The foot is quite cool.

23rd. He has passed a good night; he has no pain except on pressure or motion.

8 p.m. Bandage and dressing removed. Wound over tibialis anticus not healed—that over the tendo achillis very nearly healed.

24th. The former wound suppurates a little; less tenderness about the ankle.

25th. The boy can bear the foot to be pressed outwards, and the heel depressed, without pain. Both wounds unhealed.

27th. The wound over the tendo achillis has closed, and that over the tibialis posticus presents a healthy granulatory surface. Little's modified Scarpa's shoe applied; and the boy is able to walk in it without pain.

28th. After a time Scarpa's shoe became very painful, but he was immediately eased by slackening the straps.

10th August. He walks uprightly; both shoulders are nearly on a level, and the spinal curvature diminished. His gait is greatly improved; he walks firmly on the sole and heel without the boot; he has more extensive motion of the ankle joint. The foot itself is less incurvated; the prominences on the dorsum pedis much reduced in size.

25th. The whole limb is enlarged, and the atrophied muscles seem to be acquiring a little power. He walks about for two or three hours at a time without any mechanical assistance. But the gait continuing awkward, and the malposition and malformation of the tarsal bones still existing, though in a minor degree, a strong leathern boot, strengthened on each side by whalebone strips, is worn during the day, and Scarpa's shoe, as constructed by Ferguson on Dr. Little's plan, is put on at night.

September 16th.—The boy is signally improved. The foot is far straighter. The same plan is still enforced.

October 12th.—He walks with more firmness, but if he runs, or walks carelessly, the foot turns inwards, in obedience to his old habit of progressing; according to which the muscles have entire sway, and the leg below the knee is used merely as a

passive instrument of support. The dorsum of the foot has not yet attained the natural form, but the prominences seem gradually subsiding. He treads on the sole of the foot; but the leg being shorter, a new boot is made for him, with a thicker sole, and the whalebone on the inside so adapted as to fasten to the knee by straps.

November 20th.—The patient has walked out much more easily since the alteration in the structure of the boot; the whalebone preventing the constant tendency of the old habit of the muscles of the thigh to turn the leg inwards. He wears the "Scarpa shoe" at night.

December 10th.—The shape of the foot is more normal, but it is still a little awry. The projections on the dorsum pedis are not totally effaced. The articulatory surface cannot be totally redueed to the ginglymoid cup of the tibia and fibula. The peronei, the tibialis anticus and postieus, and the flexors and extensors of the toes, remain still exceedingly attenuated. A chief indication in the future treatment would appear to be the combining with the eareful applieation of the instrument a regulated exereise of these feeble museles, by whieh their bulk and power may be augmented, and their assistanee acquired towards the restoration of the hard parts to their proper form and position. The present state of the limb is well shewn in the drawing, No. 2.

Case II.—*Acquired Talipes Simplex.*

James Attoe, æt. 13, a pallid pusillanimous boy, of a leucophlegmatie temperament, has been siekly from his birth. His spinal eolumn is perfeetly straight, and his limbs generally arc well formed. He has but a feeble power of motion in the left hand and arm. The entire muscular system appears to be languid. The supinators and extensors of the affeeted arm being most feeble, the pronators and flexors keep the hand habitually prone, and bent on the wrist. When told to extend the fingers, he is unable to extend them without making a eorresponding motion of the museles of the opposite limb.

The left foot is the affected member. The os calcis is raised to the height of five inches and a quarter from the ground. The part rests upon the extremities of the metatarsal bones, and the tarsal bones form a very high arch. He has neither varus nor valgus. In eonsequence of the great retraction of the heel, the whole limb appears to be lengthened. In progression the deformed limb is kept in advance of the sound one, and as he has not the power of bending the foot when he rests upon the affected side, his body is raised, by which it appears as if the sound limb were the shorter of the two. The reverse, however, is the casc. See drawings, Nos. 3 and 4.

The talipes I have just deseribed has existed from almost the birth of the patient, and no efforts have ever been made to remedy the evil. From the sickly state of the boy's health, the father, who is a well-eonducted peasant, despaired of rearing him, and thought that any attempt to cure his deformity would be labour lost.

The eonstitution of this lad renders him an unfavourable subject for the operation. He has but little vital elasticity, and the museular system is excessively feeble. The peronei postici, the tibialis postieus, and the flexors of the toes, appear to have predominated over their antagonists.

21st July, 1839.—The boy being placed prone on his bed, and the tendo achillis being made tense, I introduced a straight-edged Freneh bistoury, in the manner I described in the case of Larner. I found this instrument much inferior to the common curved bistoury, for it became neeessary to employ a sawing motion in dividing the tendon. This took up more time, made a larger external wound, and oeeasioned more pain, than the simple traction, which was all that was required with the curved bistoury. Immediately that the division of the tendon was completed, a loud crack was heard, and sudden retraction of the ends of the tendon took place, to the extent of two-thirds of an ineh. A drop of blood only was spilt. He was placed in bed, and the foot was bound up, as in the case of Larner.

Vespere.—He is quite comfortable.

22d.—He has passed a good night; he eomplains of a slight pain in the ankle, but he has no febrile symptoms.

24th.—The bandage and plaster being removed, the wound is found to be cicatrized. Stromeyer's board is applied, and slight extension made. In the evening no pain had been produeed by the apparatus.

25th.—The stress of the instrument is increased.

27th.—He bears the pressure of the board without ineonvenience. The heel is very perceptibly depressed, and the foot is raised to nearly a right angle with the leg. He is allowed to walk down stairs, with the apparatus on his foot.

1st August.—He ean walk with the help of a crutch; the heel and sole of the foot both toueh the ground; he is direeted to walk for some time every day, without his boot; his gait is rather awkward.

10h.—His gait is improved: he walks with more faeility, and there is freer motion in the tarsal and metatarsal joints. His tread is firm.

12th.—Stromeyer's board is left off, as

the foot is now brought to a right angle with the leg; a strong leather boot, with a steel stem, fixed in the fibular side between the lining and the outer leather, and so arranged as to be fastened by bands to the leg, below the knee, was now put on, and he is ordered to wear it night and day.

16th.—He walks better, and says he feels support from the boot. He complains of weakness in the ankle-joint.

24th.—The boot above-described is to be discontinued in the day, and instead of it the patient is to wear a leather boot, with whalebone springs on each side; the form of the foot is maintained in its natural character. He manifests some slight power over the extensors of the toes and flexors of the foot. In the upper left extremity, the extensors of the fingers also show an increase of power, as is proved by his being enabled to move them without calling into action the corresponding muscles of the opposite limb. He takes the twelfth of a grain of stryehnia three times a day, and has friction over the muscles employed night and morning.

30th.—He walks with more ease, and less awkwardness; and he can stand more steadily on the affected limb.

Sept. 6th.—The twitching of the arms and legs is so severe as to make him cry out; he is consequently to diminish the dose of strychnia to the sixteenth of a grain, to be taken three times a day; he has more power in the diseased muscles; he can lift a heavy weight, and raise a cup steadily to his mouth; he opens and shuts his hand with apparent facility.

16th.—The twitchings have subsided; his gait has improved; the boy's health and colour have strikingly improved; the left leg has increased in bulk, and he can stand upon his left foot; he wears the light boot during the day, and the heavy boot at night.

18th Oct.—He still halts a little in his walk; he takes walking exercise for several hours daily; his ankle-joint is stronger than it was, but the internal malleolus projects more than in the right leg; he is to leave off wearing the strong shoe at night.

10th Nov.—The affected leg appears to be shorter than the sound leg; the sole of the shoe is to be thickened, therefore, by a layer of cork.

13th.—This elevation of the sole of his boot very much facilitates his walking; he has walked without fatigue from his native village to Wokingham, a distance of five miles.

10th Dec.—The form of the foot has attained its normal state, and his gait has very much improved. There appears no reason to doubt that as he grows older, and his health improves, his muscles will acquire their full force and development, and that the affected limb will be as useful to him as is the other.

No. 3.—Attoe's foot before the operation.

No. 4.—Attoe's foot on the 10th December.

CASE III.—*Acquired Talipes Varus.*

Charles Over, ætatis 13, a fine hearty boy, when five years old, was seized suddenly, whilst walking in the road, with violent pain in the ankle, which was attended with redness and swelling. He was confined to his bed for several weeks, suffering greatly all the time. After this the heel became gradually elevated, and the foot turned inwards; the limb has been in its present state, which is exhibited in the drawing, No. 5, for many years. No means have been resorted to for the cure of the deformity.

The left foot alone is affected; it is smaller than the opposite foot; the length from the heel to the toes is five inches and a half. The elevation of the heel from the ground is also five inches and a half. The dorsum of the foot is very much arched, and the great toe and heel are so much approximated as to form an arc. The plane of the sole of the foot is turned towards the right limb, and is raised about forty-five degrees above its normal plane. The boy has limited motion in the ankle-joint, he rests his weight when standing or walking upon the distal extremities of the metatarsal bones. The affected leg is shorter and smaller in bulk than the right leg; the foot being extended to the utmost upon the leg, the broad end of the supe-

rior articulatory surface of the astragalus is projected from the tibio-tarsal cavity, and has probably lost the cartilaginous and synovial character of its surface. As a consequence of this position, the foot possesses some lateral motion; there is some difficulty in straitening the foot outwards, owing apparently to the resistance of the plantar fascia and flexor longus pollicis. The beautiful curve which the dorsum pedis presents, indicates evidently the existence of considerable elongation of all the superior ligaments of the tarsus. The flexion of the foot upon the leg is impracticable except to a very small extent.

The patient has so little confidence in the limb, that he cannot walk without the aid of crutches.

September 3rd, 1839.—I divided the tendo achillis with Dr. Little's knife, No. 3. Having laid the boy down on his bed, I passed the blade on its side beneath the tendon, taking care that it went sufficiently deep to be below every fibre of it. Having felt the point of the knife under the integument, on the opposite side of the tendon, I turned the edge upwards, and divided the tendon, by drawing the blade outwards, thus making, as in the former cases, but one small wound. The retraction of the muscles, in the calf of the leg, was distinctly felt, and the crackling sound heard when the division of the tendons was completed. Having now finished the section, I moved all the joints of the foot in all directions, and satisfied myself that no further division of tendons or ligaments was necessary to overcome the rigidity that remained. I closed the wound with a little adhesive plaster, and applied a loose bandage round the ankle. The leg was bent, and soon after the operation, which he said was painful, he complained of headache and nausea. In the evening he said the limb was perfectly easy.

4th.—He passed a good night; he is free from pain, but is a little feverish. He is ordered some saline medicines.

5th.—I removed the dressing; the wound is not quite healed. The dressing is removed.

7th.—The wound being healed, I applied Stromeyer's foot-board. The ankle-joint was very rigid. The heel could not be brought down. No pain however was produced by the tension of the instrument.

8th.—The boy slept well. He is free from pain and febrile symptoms. Extension of the foot by means of the machine is increased; the heel and sole brought nearer to the board. The extension producing some pain, is lessened, and the patient is relieved.

10th.—The form of the foot is a little improved; the foot bends a little more upon the leg. He has walked a little with the foot-board on, without feeling pain. He has some œdema of the foot, occasioned by the pressure of the bands of the instrument.

14th.—He is much better. The curvature of the tarsus is diminished. The heel very much lower, and he can touch the ground with it when he sits in a low chair. Being a very intelligent lad, he has learnt perfectly the mode of managing the instrument; he screws up the foot-board so as to produce the greatest available pressure on the contracted part. Being very zealous, he may be trusted to manage for himself.

16th.—The foot is raised to nearly a right angle with the leg. The force of the instrument gradually augmented.

21st.—I applied Dr. Little's modified Scarpa's shoe to-day, in which he walks with difficulty, with the assistance of a stick and a crutch. To have Little's shoe on all day, and Stromeyer's board at night.

3rd October.—The boy complains of the shoe giving him much pain; it feels very heavy, and prevents him from walking more than a few steps at a time.

15th.—His gait is very much improved, but owing to his not resting sufficiently long on the affected foot, the effect of limping is produced. Scarpa's shoe being very painful, a plain leather boot, with a steel stem on the outside, and fixed into the sole below, as well as capable of being strapped to the knee above, was supplied to him. In that he walks with much more ease.

21st.—The patient walks much better. There is no retraction of the heel, and the lateral curvature has almost entirely disappeared. He continues to wear the shoe by day, and Stromeyer's board at night.

6th November.—The foot has much improved. He is supplied with a leather boot, having whalebones on the inside between the lining and the outer leather. The affected leg being shorter than its fellow, the sole of the boot is thickened with a layer of cork.

13th.—He walks freely with the aid of a stick. He complains of weakness in the ankle, but the tone of the muscles is so much restored that he can ad libitum flex his foot, and bend or extend his toes as freely as in the sound member.

20th.—Discontinues the use of Stromeyer's board at night.

22nd.—The boy thought the heel a little retracted this morning, but this appears to be an error, for he places the foot, without difficulty, perfectly flat on the board. He walks without a stick, and is moving about or standing all day long.

30th.—The gait of the patient continues

to improve, but it is still awkward. This fault seems due rather to the difficulty of overcoming his long contracted habit of limping, than to any remaining malposition of parts.

10th December.—The form of the foot is perfectly natural. The leg is still smaller than its fellow, and he has not yet totally subdued the perverted habit of the muscles, but being intelligent and zealous in the cause, he is attentive and assiduous in putting into practice the regulated exercise which I have prescribed, and which is obviously and continually tending not only to improve the gracefulness of the movements, but also the power of the muscles themselves. The state of the limb at this period is shewn in the drawing, No. 6.

No. 5.—Over's limb before the operation.

No. 6.—Over's foot on the 10th of December.

MR. CÆSAR HAWKINS ON THE EXCISION OF THE TONSILS.

To the Editor of the Medical Gazette.

Sir,

The great variety of operations which have been proposed for the cure of enlarged tonsils, and the vast number of instruments which have been invented for their removal, demonstrate the difficulty of effecting this object; and whoever has had occasion to perform it often, especially in children and young persons, in whom the enlargement is most frequent, will acknowledge that however simple it appears, the excision of the tonsils is a tedious and distressing duty, on account of the ready excitability of the muscles of the throat. The chronic enlargement of these glands is at the same time so very common, and so difficult to be subdued by medicine and local applications, that the removal of the tonsils frequently becomes necessary to prevent the constitution of young persons from giving way under the influence of the constant irritation which arises from their enlargement.

I have found an instrument, which I have been in the habit of using for some time past, so little known to surgeons, who are constantly performing this operation, and so many medical friends, to whom I have recommended it, have been delighted with the facility with which the tonsils can be removed by means of this instrument, that I am induced to draw your readers' attention to it, as a great improvement in surgery. I can do this with the greater confidence, because I do not claim the merit of the invention, but only of two or three little alterations in its form, which facilitate its operation.

The instrument is a kind of guillotine, invented by Dr. Warren, of America, or at least recommended by him, which excises the tonsil with great ease, and without the possibility of cutting any thing which is not purposely included in it by the operator. A hole of an oval shape is made at one end of a plate of metal, which is gently pushed over the tonsil, and a concealed blade runs in a groove of the plate, and is pushed forward so as to cut off exactly so much of the tonsil as the surgeon causes to project into the hole. The grooved plate has a handle, which can be held in either hand for the right or left tonsil, and the tongue is kept down by the instruments or by the finger of the other hand, and the moveable blade has a little concave knob receiving the thumb of the same hand which holds the handle, by which the blade is pushed forward across the hole, so as to separate the protruding tonsil as it passes; and

the excised portion adheres to the blade after the division, so as easily to be pushed forward out of the mouth before it can drop into the fauces. The introduction causes very little irritation of the fauces, because its action is by pressure, instead of dragging on the tonsil, as the tenaculum does in the common manner of operating, and the bleeding is very trifling, and the subsequent inflammatory soreness as much less than in the usual operation as the time is shorter in its performance. I have found two different sized instruments sufficient for very young children, or for adults; but they can, of course, be made of any size required.

One reason why this instrument is less known than it deserves is, perhaps, that the pattern left with Messrs. Philp and Co. of St. James's Street, appeared too clumsy, as they inform me, to several surgeons to whom they shewed it, but by giving it one handle only, instead of two, and altering the angle of the handle with the blade to an obtuse instead of a right angle, the thumb of the same hand which holds the handle can easily act on the knob of the blade or cutting part, instead of both hands being required; and by diminishing the circle of the grooved part, the size of the instrument is considerably lessened; and it thus becomes by apparently trifling alteration a very neat and useful instrument, infinitely superior, I think, to any other means of excising the tonsils.—I am, sir,

Your obedient servant,

CÆSAR HAWKINS.

31, Half-Moon Street, Jan. 22, 1840.

ON THE TREATMENT OF FRACTURES OF THE PATELLA.

To the Editor of the Medical Gazette.

SIR,

PERMIT me to make a few remarks on Mr. Rogers's paper, in a late number of the GAZETTE, on the treatment of fractures of the patella, wherein he makes some objections to my instrument, which I should not have taken any notice of, had they been practically true, and had he not apparently condemned my instrument with the object of making his own (which, after all, appears to me to be largely copied from mine), possess far greater advantages. I may state that it is not my object to enter into the comparative merits of the two instruments, but merely to shew wherein I think Mr. R.'s objections are unfounded.

In the first place, Mr. Rogers says my instrument is complicated; now I believe all those who have seen it have remarked how simple it is, and how easily it admits of being applied; for there are merely two slides, one of which makes the vertical pressure, while the other acts horizontally, and so approximates the two portions of bone; both of which slides admit of making any degree of pressure, by means of two screws which act upon them. The second objection is one which must be quite separated from the principle on which the instrument is made, or the practical benefits derived from its employment, for it only amounts to this—that those who have not got the means cannot obtain it. The same objection may be made to many instruments which are acknowledged to be useful, and to produce beneficial results, but which are nevertheless expensive. It is no fault of the instrument, but a misfortune rather that they cannot be made cheaper.

The third objection Mr. Rogers makes surprises me more than the two just quoted, for it is in direct opposition to the practical result obtained by the employment of the instrument. He says, "that at the end of twenty-four hours, the relative position of the instrument and the limb is no longer the same, and the whole apparatus requires to be readjusted." Now the fact is, that one great advantage the instrument possesses is, that it is firmly and completely fixed to the limb, for there is a long back splint extending from the heel up the back of the leg, and half way up the thigh, to the lower end of which there is a foot-board attached, and to this back splint the foot, leg, and thigh, are bandaged, before the fractured portions of the patella are brought into contact by the other part of the apparatus, (the knee joint itself not being confined by the bandage.) How, then, can the relative position of the link and the instrument become altered, being so completely fixed by the means above-

mentioned? The statement that "the whole apparatus requires to be re-adjusted at the end of twenty-four hours," is in direct opposition to my own observation of the cases in which it has been employed, and owing to the kindness of the surgeons of the Middlesex Hospital I have been enabled to employ it in a great many cases, in all of which the relative position of the instrument and limb has been preserved throughout the whole treatment, and without re-adjusting the instrument. That part of the apparatus which confines the fractured portions of the patella has required altering I allow, owing to the swelling increasing or diminishing, or from the patient experiencing more pain than usual; and so far from this being an objection to the instrument, I think it one of the advantages it possesses; for the pressure admits (by means of the slides) of being so easily regulated, that it is not necessary to disturb either the limb or the apparatus. Now this certainly differs from "the whole apparatus requiring to be re-adjusted every twenty-four hours;" the fact being, that the apparatus does not require to be moved (if properly applied at first) from the beginning to the end of the treatment. I have kept the apparatus on for a month or six weeks without re-adjusting it.

In conclusion, I may state that my object is not to give an opinion on Mr. Rogers's apparatus, but merely to vindicate my own against objections which I do not think to be founded on practical observation.—I remain, sir,

Your obedient servant,

EDWARD F. LONSDALE.

82, Guildford Street, Russell Square,
Jan. 27th, 1840.

MEDICAL GAZETTE.

Friday, January 31, 1840.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

OUR COMMON ENEMIES.

WE observe that Mr. French intends, this evening, (Friday) to move in the House of Commons, "That an humble address be presented to Her Majesty, that she will be graciously pleased to appoint a commission for the purpose of reporting upon the evidence with regard to the state of the medical institutions of the country, taken before a select committee of this House in the year 1834, and to prepare a plan of medical reform upon which legislative measures may be founded, and that Her Majesty may be pleased to order such report to be laid before the House as early as possible in the present session."

Whatever may be the result of this motion, (which we shall not fail to communicate to our readers,) it affords a pretty clear indication that nothing important will be done this year. Commissioners take some time in being appointed—still longer in considering the task they have before them—and still longer in doing it; so that as legislation is not to commence till the commissioners have finished their work, and given in their plan, the present institutions will have ample time to contemplate and prepare for their end, and to make arrangements for the due disposal of their effects.

However, we will not prejudge the result of this motion; but, as if in expectation that it would at once lead to some important and conclusive measure, we will continue our suggestions as to the ends which all who take interest in the welfare of their profession should keep constantly in view. The chief, as we said not long since, should be, to be constituted a privileged as well as a diplomatized body, and to obtain peculiar rights, of which invasion, from whatever quarter, should be punishable. The attainment of this object would not be more important or advantageous to the medical practitioner than to the public, and therefore its pursuit has nothing in it like that which is so odious in the strife after other monopolies. The legis-

lature is not less bound to protect the public, who are altogether incapable of judging for themselves, from the chicanery and charlatanism of those who endeavour to impose upon them in medical practice, than it is to guard them against any other social or pecuniary mischief-makers; and there can be no other method of affording security than that of giving privileges to such as are fit to make use of them, and in preventing them from being usurped by others. The interests of the public and of the authorized medical practitioner are therefore identical, and no boon can be conferred on the latter without an equal benefit accruing to the former.

Now, that all may the more constantly and easily bear them in mind, let us briefly enumerate and describe some of the common enemies of all classes of medical practitioners.

First among them, because most prominent and most mischievous to the public, are quacks of all kinds; venders of secret and universal physic, which they call remedies, from Morison to the village mountebank. The last, indeed, may be left to himself, as the race is rapidly being extinguished; for quackery has advanced in these days to be an extensive trade, requiring no small capital to bear all the expenses of its conduct. Surely it is disgraceful and absurd that a legislature, or any member of it, should pretend to take so much interest in the condition of medical practice and its professors, as to make them the subject of inquiries and reports, and yet allow this overwhelming bane to remain unmitigated. There are, we believe, but two arguments ever advanced in favour of permitting its continuance; viz. that a man has a right to put his own health under the care of whomsoever he pleases, and that the stamps on secret remedies furnish a desirable sum in the annual revenue. The first is shewn to be void of value by the contrary course pursued with other materials offered for public sale. A man is prosecuted and punished for selling adulterated or mischievous goods of all kinds but medicine—the brewer is guarded by excise from using anything but malt and hops—the baker is fined for adding any material, even a harmless one, to his bread—in short, the public are protected by law from the impositions of all tradesmen but the trader in physic. In all other trades the legislature permits the public the full liberty in dealing which they demand in the trade in physic; but it takes care that their ignorance should not be made the dupe of dishonesty. It is with the traders in medicines only that it leaves the public (more blind to their own interest in this than in any thing else in which they engage) entirely open at once to the frauds of the dishonest and the mischief of the ignorant—qualities which the peculiar nature of quackery permits its professors to combine in a degree which is scarcely possible in any other occupation, for in few others can a fool safely undertake to be a rogue. In medicine only, therefore, in which they ought to be most securely guarded, the public are unprotected.

And for the other argument, surely if millions can be risked in the endeavour to afford facilities for communication, and to take off burdens on intellectual advancement, or domestic comfort, the few thousands that are gained by permitting the existence of quackery might be given up to secure the public from the destruction of their health, and the abbreviation of their lives, to which it continually leads. Or if such a sum as thirty or a few more thousands a year cannot be spared to benefit the public, how gladly would every practitioner pay an additional tax upon his diploma to be freed from the injury and annoyance which he incurs from this

class of poachers! The revenue might thus be even benefited; the honest and legitimate practitioner protected from at least one source of harm; the public health secured against the most virulent endemic that afflicts the land; and the country saved from the stigma of permitting and even patronizing the most gross and stupid fraud.

These, then, are the first of our common enemies, for whose suppression every practitioner should strive, with the determination of obtaining for his diploma—for which he has laboured hard—the privileges and pecuniary advantages to which it justly entitles him. Let us now pass to another class—the druggists, we cannot call them chemists, for few of them have the least knowledge of that science from which their predecessors took the name. In the present day there is scarcely a druggist in any provincial town who does not combine, in his own person, the offices of the vendor of secret remedies (?), and of the legitimate medical practitioner: there is scarcely one who does not both advertize and sell some nostrums of his own, and at the same time prescribe for, and sell medicines, to patients, whom he either sees in his shop, or visits at their own homes. Not content with usurping the privileges which apothecaries, since 1815, have gained, only after a severe course of study, and a vexatious examination, the druggists now invade the rights of all classes of practitioners, whatever be their diploma —stopping short (though, we presume, but for the present,) only at the higher operations of surgery.

The results of the invasion of our rights from this quarter is, we readily acknowledge, less mischievous to the public than the practice of the professed quack; for most druggists possess a certain amount of modesty and respectability, and, as tradesmen, are probably amongst the next honest; though we are at a loss to know how they reconcile their consciences, which are tolerably tender on other points, to this open infringement on other men's rights. However, they do not, like the professed thorough quack, rely entirely on the extent to which they can deceive the public; they are generally content to take charge of the *minutiæ medicinæ*, and to treat these with a very impotent caution: they certainly, sometimes, only occupy the patient's time while nature is curing him, and, therefore, do him but little harm. In more serious cases, however, such temporizing is only giving time, not for the cure, but for the destruction of the patient; and thus, the druggist, in his innocent ignorance, stands only second to the quack in his impudent pretence of knowledge, among the sources of destruction of man's life by man.

But, if the druggist, when he assumes the functions of the medical practitioner, were entirely innocuous, or even in some degree useful to the public, his suppression in this capacity is the bounden duty of the legislature. Certain bodies have been authorized to license those to practise medicine whom they deem fit for that purpose, and in no plan of reform that we have yet heard of has it been proposed to do more than change those in whom that authority should be vested.— It is surely, therefore, only in accordance with the dictates of common sense, that those who are thus licensed should be protected from the unlicensed also. Else why license them at all—why pretend to give them a privilege—when they really receive only such a form as a large portion of the public are unable to appreciate? It can be of little use to ordain modes of education and to grant licenses, if any man may educate himself as he pleases, and taking his impudence in lieu of a diploma, can pursue with impunity any branch of

medical praetiee that may appear to him to be the most profitable.

A third class of common enemies to the authorized practitioner are those who practise in any braneh under the pretence of having obtained the necessary (or to speak more aceurately), the honorable but unnecessary diploma. With the exeeption of those who have praetised as apothecaries before 1815, and a few of the older surgeons, this class is eomposed ehiefly of those who have been rejeeted for ignoranee by the examiners of the College of Surgeons, or the Apotheearies' Hall. In despair of obtaining their diploma without a greater expenditure of intellect and industry than they feel inelined to, many of this elass commenee praetice in the country, seeure from annoyance from the College, because of its impotency, and from the Hall, because of its supineness and instability. The fitness of these persons to take charge of the public health may be thus judged of:—The examinations which they should have passed require only a very low standard of medical and surgieal knowledge; a standard so low, that it is the constant endeavour of all parties, by every fair and gradual means, to raise it, and secure more effectually the fitness of the candidates to be praetitioners. What, then, must be the eondition of those who eannot attain, and even despair of ever attaining this standard? Yet many such are practising extensively among the poorer classes in our provincial towns, on a perfeet equality, in the view of the public, with the thoroughly qualified praetitioner. Here there is again plaee for deeisive legislation. Whatever be the diploma granted, give its possessor his just rights; give him who is fit to take eharge of the public health a fair advantage over him who has been proved to be unfit.

There are other classes whom we might also enumerate, but they are eomparatively insignificant; though in any general measure they also, whether horse-doctors or homœopathists, bone-setters or animal magnetisers, would be excluded from right to practise. Those to whom we have alluded are the source of not less injury to the public than to the medical practitioner. The publie, therefore, incapable of guarding themselves, imperatively demand the protection of the legislature; and the practitioner as distinctly requires its assistanee, to make the form of diploma, which the legislature authorizes, an available and advantageous substance. This, then, as we have already said, should be the present and first eommon object of all praetitioners—to obtain the suppression of their common enemies; without that no new arrangement of themselves, by fresh names, or fresh diplomas possessing nothing more than names, will be of the least value in redressing their grievances.

CLINICAL LECTURES
ON THE
EXAMINATION OF THE SICK,
AND THE PRINCIPAL SOURCES OF FALLACY ATTENDING PRACTICAL DIAGNOSIS,

Delivered at the St. Marylebone Infirmary, November, 1839,

By John Clendinning,
Senior Physician.

Rules and method of procedure.—I now proceed to the more immediate subject of the present address, viz. the personal examination of the sick. There are two great requisites for success in the professional examination of the sick. Of these the principal is, 1. The knowledge of the physiology of disease; otherwise, the ætiology and the pathology, internal and external; including in those terms not only the morbid causes, conditions, and processes, operating or existing in the interior of the organs and tissues, but also the external causes and manifestations of those processes and conditions: in other words, the

causes, remote and proximate, and the symptoms. To parts of this wide and most important department, which, as a whole, is distinct from clinical medicine, I shall have often to recur in illustration of cases to be treated of in future lectures.

2. The second requisite is a good method of procedure—comprehensive, so as to leave out nothing important to be inquired for; and accurate, so as to lead to no false estimates of the importance of what we observe, and simple and easy of execution, so as to give as little inconvenience as possible to patient or practitioner. Now, on this point, I would have you to recollect that though the "old hand" is generally in possession of what may be called "*short cuts*," by means of which, with little risk of error, he can much abridge his labour in many cases—still that the high road is the safest and most suitable for the young traveller, and that therefore a regular methodical course and style of examination should be employed by every man, until ample personal experience shall have made him acquainted with the cross-roads and by-ways by which time and trouble can be prudently saved. On turning over in my mind the question how best, according to those views, to explain the business of examination, several occur to me, any of which perhaps might be made to serve my purpose, though not all equally eligible. The best plan, on the whole, appears to me to be the following. First, to give at length, successively, the different stages of the procedure of examination, with such explanations and illustrations as each may require, and afterwards to subjoin a few general observations upon the principal sources of fallacy, from attention, to which I conceive errors of diagnosis would be less likely to happen, and complete detection of disease could be more surely calculated on.

A good method, then, of examining the sick, may be said to comprise three stages. 1st. The General Survey, or coup d'œil. 2nd. The Hearing the account of the case from the patient or his attendants. 3rd. Minute Personal Examination, by manipulation, inspection, &c. of the regions, cavities, &c. &c.

1. The first step, then, is the general survey; by which I mean that cursory inspection, without interrogation or minute examination, which the experienced practitioner habitually and often unconsciously takes, immediately on his admission to the sick-room, and more especially in new cases. The object of this inspection, and the information to be gathered from it, are very important. From a cursory survey we learn generally the sex, the age, the expression of countenance, the posture, the coloration, the mode of breathing, the general conformation, &c.; all of them points of much importance in the investigation of new cases. To these may be added the state of nutrition and of voluntary power, each a matter of great moment in chronic diseases especially; and by slightly examining the pulse, and passing the hand rapidly over the chest and abdomen, we may add the state of the circulation, of the animal heat, and of various other circumstances and conditions, bearing in certain cases importantly on the diagnosis of pectoral and abdominal disease. When coolly and judiciously done, this cursory general inspection will, in a large proportion of cases, put us on the true scent, and enable us by a few questions, and without almost any further trouble to patient or practitioner, to come to a decided conclusion. So true is this, that the seniors of the profession require in most cases no other data almost than those furnished by the cursory general survey of the patient, followed by a few well-directed questions; and after that, perhaps, by a form of examining the night chair, urinal, spittoon, &c.—and though the practice of the veteran practitioner is no model for the young prescriber to follow, still less for the mere student, it may safely be admitted that a diagnosis, prognosis, and indications, for all practical purposes sufficiently correct, can by such easy means be generally obtained by men of much experience. There can, therefore, be no doubt that a correct general survey is an important preliminary step towards an effective examination. This will appear still more clearly by reference to a few examples. 1st. In the first place, many diseases are, when advanced, or severe, often recognizable almost at a glance. Such are, amongst other examples, apoplexy, cholera, most of the exanthemata, phthisis, morbus cordis, dropsy, madness, chlorosis, typhus, pulmonary catarrh, puerperal peritonitis, &c. when well developed, by various obvious symptoms; such as expression, coloration, &c. of the face—mode of breathing—posture, &c., &c. So also, frequently, are purpura, epilepsy, chorea, dentition, hysteria, various hemorrhages, &c., by symptoms and circumstances that readily strike the experienced observer. In those cases in which even to the veteran practitioner no decided indications of the nature of the disease can be had from the *coup d'œil* or general survey, there is generally a clue to the disease which can be laid hold of long before the completion of a thorough examination, and by means of which we can often shorten and facilitate our work greatly by the prompt application of what I might call an appropriate *test*: meaning by that term some pertinent question or

two, or the exploration of some particular region, organ, or function, by which decisive indications may be obtained, making clear in a moment the previously doubtful nature and tendencies of the disease.

It seems clear enough, then, that an attentive, observant, and yet but cursory survey, may be, in a very large proportion of cases, the greater part of what the experienced practitioner must necessarily do, and in those cases it is either enough in itself, or at most requires only a little additional trouble in asking a question or two, or examining some particular region or function of the body, in order to furnish all the information needed for effective practice. The importance, then, of attention to this part of the sick-room business is obvious. I have shewn it may to a great extent supersede the other stages of examination, and is sure, in most cases, to facilitate them greatly.

2nd Stage.—The next stage of examination is that in which we interrogate the patient, or his attendants, or both, respecting his disease—its supposed causes—its duration—the history of its progress—its juvantia and lædentia—his present feelings, &c. Also his previous habits and circumstances; such as profession, trade, hereditary disposition, idiosyncrasy, previous illnesses, &c. In most diseases the most important information is obtained in this stage, viz., in diseases not importing organic mischief in the chest or abdomen, in all stages, and in very advanced stages of all grave diseases. By interrogatories at this stage, we are commonly able to diagnosticate, with sufficient practical accuracy, functional diseases not obvious upon cursory inspection, viz.: fevers of various kinds; most encephalic diseases; most acute inflammations; many or most of the profluvia or excessive discharges; the great majority of the neuroses; most of the diseases of the urinary and genital systems; in a word, the greater part of the most important diseases of the human body. This stage, it is obvious, may be made to include the former stage, and in point of fact, it may be observed, with respect to it, that the veteran practitioner does find no difficulty in combining the two stages, noting the various circumstances above referred to in describing the first stage, and making at the same time the various verbal inquiries enumerated in the second stage. But it is, 1. to be observed, that in unknown and possibly complicated cases, it would be very difficult for a "young hand" to carry on such a double operation effectively. 2. Then in the second place it is often difficult to get the information to be inquired for in the second stage, owing to deafness, nonage, insensibility, delirium, &c., in the sick, and to stupidity, ignorance, &c., in the attendants. For these reasons, it is very desirable that the student should endeavour to acquire the "coup d'œil," or habit of rapid yet attentive general survey, as a preliminary to more minute examination when this is attainable; or as a substitute for it when it is not attainable.

2nd Stage.—Rules and Cautions.—In carrying through the second or interrogatory stage, it is desirable that our questions should not be put at random, but that we should inquire with some degree of method, so as to be put speedily in possession of the leading features of the case, and, for this purpose, the best plan, when, from previous information, or from the appearance of the patient, we have no distinct clue to the disease, is to invite him at once to tell his own story, directing his attention, if necessary, to the points of information most required, but leaving him as much as we conveniently can to take his own course in other respects. One precaution is particularly necessary in this stage, viz., to avoid what barristers call "leading questions." This is a rule which should always be strictly observed, unless we are quite satisfied of the probity and of the intelligence of our patients. From inattention to this rule, the most serious mistakes have not unfrequently arisen as to diagnosis and treatment. It is obvious that in known mental disease no faith whatever should be placed in any unlikely, unsupported statement of the sick. But there are many states of mind that disqualify the patient as a witness, little less than downright insanity, or idiotcy. Every condition involving in any way slowness or difficulty of correct apprehension and reply, as extreme youth or age, deafness, delirium, stupor, sullenness, hypochondriasis, hysteria in many cases, &c., &c. Also obviously all cases of suspected fraud, and wilful simulation, such as malingering and skulking, concealed venereal infection and pregnancy, &c., &c.; and examples of one or other of those sources of fallacy are of daily occurrence in every walk of practice. After having heard the patient's own account, it will then be time to put the questions fitted to elicit any further information desired; and this it will be the more easy for us to do, if we have been sufficiently observant in our first survey. Our queries will usually be suggested, in cases previously unknown, by what we have ourselves seen or been told by the sick, or his attendants; provided, of course, the information obtained from those sources point to any particular disease. Thus, if any symptom, such as cough, difficulty of breathing, &c., palpi-

tation, &c., occur, we must then direct our inquiries to the pectoral viscera. If any thing like convulsion, palsy, stupor, &c., be named or noted, then the nervous system, and especially the brain, must be attended to; and so of the other functions and organs.

The following are the principal points to be attended to in the inquiries constituting this most important of the stages of the examination. They may be grouped together as constituting either:

1. The past history, or 2. the present state. The history includes the following principal heads of inquiry:—

1. The dates of the commencement of disease, or first notice of decided symptoms, and of their abatements, aggravations, intervals, and resumptions of activity.

2. The causes, including, *a* the previous health, diseases and habits of life. *b*. The hereditary dispositions; *c*. the personal conformation and susceptibilities; *d*. the juvantia and lœdentia, or agencies, whether medicinal or not, that have been observed to favour or check the disease, and *e*. the incidental or apparent immediate causes of the attack.

Dates. — Now the dates are often of paramount, always of great importance. 1. They are in many cases the only data we have for distinguishing essentials from incidents, or causes from effects, and *vice versa*. In physiological causation it is common to find, whether in different cases or in the same case at different times, a given circumstance or condition occupying alternately the opposite positions of activity or neutrality, or of cause and effect; so that in individual examples of disease, without a correct chronology, there can be no sure ætiological reasoning.

2. The duration of disease or of particular symptoms is a point of much importance in many cases, both with reference to prognosis and to treatment. It is obvious, cæteris paribus, that the probabilities of cure diminish with the duration of all chronic diseases; for there is in such cases a growth in the organism of antagonist influences, viz., diseased habits; and at the same time the capabilities of enduring remedial means, or even of sustaining the wear and tear of life itself, diminish with time and continued suffering.

Causes.—Then with respect to causes; it is commonly of great importance to ascertain the mode in which the disease has been produced.

1. How far, by family disposition, or acquired liability; or other personal peculiarity. 2. What circumstances have seemed to call it into being or activity more immediately; and, after its appearance, 3. What agencies have been found or thought to favour or retard its cure.

Under the first head, or predisposing causes, the principal objects of inquiry and attention are the following, viz.: peculiar liability to disease or the reverse, as an incident,

1. Of the blood, (hereditary, &c.) 2. Of the original personal conformation, or of the physiological endowments, as modified by age, (congenital, original, sexual, &c. &c.) 3. Of the social position, local relations, personal habits of body and mind, &c., and other incidental influences and circumstances.

Under the second head, viz. exciting or occasional causes, nothing need be said; the objects of inquiry are obvious in all cases where there is no reason to suspect the intelligence or good faith of the sick or their attendants.

Under the third head, viz. the juvantia and lœdentia, the information commonly most useful respects the effects of remedies used at an earlier period of the disease or in previous attacks of it; and generally the susceptibilities of the individual with respect to such active medicines and other curative means as he may have made personal trial of; also the effects of diet, weather, exercise, and rest, mental and bodily.

Present state.—2. The second part of our inquiry, or that which respects the present state of the sick as distinguished from the past, relates partly to this the second stage of examination, and partly to the third stage, next to be described: so far as it comes within the second or present stage, its principal objects are the condition of the leading vital functions. With regard to those functions, the state of the breathing, of the nutrition, of the circulation, of the muscular power, of the animal heat, are the most important objects of attention. The breathing may, by any of several causes, be embarrassed so as even to be incapable of properly ventilating the blood. The nutrient fluids may, from that and other causes, be deficient in quantity or quality, or distribution. The heart may act too feebly, from want of power or of stimulation, and the vessels may be inapt for seconding the cardiac efforts—or the reverse of those may exist, in the form of violent palpitation, &c. &c. A low state of voluntary power may exist, indicating either cerebral disease or else defective muscular nutrition, and palsy or convulsive contraction may be observed. Heat may be generally, or (what is practically more important), locally excessive, or it may be generally deficient, which however rarely happens in grave disease, except towards the close of life, though common enough

in slight affections, such as hysteria, &c. In a word, the nutrient function may be deficient in the elements that should constitute its fluids, or in the instruments and conduits that should properly distribute them, or in the subsidiary organs of depuration and renovation, that should refit them for their high office of repairing wasted substance, and restoring lost energy.

Nervous system. — But though on the whole the most important to the physician, still those instruments, and that function of nutrition, must not unfrequently give place, as objects of inquiry, to the nervous organs and functions. For though life is in all probability not dependent on any nervous action as an essential condition or element, (with the exception, of course, of the proper nervous functions of sensation, volition, &c. &c.) yet practically we find that grave lesions of those functions usually imply danger. Indeed there are facts that shew that the brain may, in almost any organ, incidentally, and by an instantaneous morbific emanation or influence, destroy that vitality which (there is good reason to believe) it has intrinsic normal power to sustain in none. The examples in which it is most important to observe narrowly the nervous functions are, 1. fevers; 2. acute inflammations; 3. apoplectic, lethargic, convulsive, and mental diseases. In chronic organic diseases, delirium, spasm of voluntary muscles, &c. rarely occur until death is at hand, excepting in certain cerebral affections, and such symptoms are consequently of little comparative importance in those cases, unless with respect to the prognosis.

Cautions.—Now in the business of the second stage of the examination of the sick, there are certain inquiries, which, in new cases, however clearly seen, should, as a matter of prudence, and for his own safety, never be omitted by the young practitioner. These are principally the state of the tongue, of the arterial pulse, of the bowels, of the urinary discharge in adults; and to these are to be added, for females, that of the menstrual function. The attention given to the urine is a remnant of the Hippocratic pathology, and in a scientific or theoretical point of view must certainly be held to be well founded. The importance attached by females to the menstrual flux is for the most part a prejudice; the disturbances of that function being effects of many, but causes of few serious illnesses or diseases. The pulse is always important, taking into account its volume and force, as well as its frequency and intervals, or rhythm. But the attention to the tongue and bowels is very much an English prejudice. We are yet in the era of the blue pill and the black draught. The public still attributes numberless ailments to imaginary hepatic disturbances and intestinal derangements, and it is necessary that the profession should treat with indulgence, if not with respect, the more harmless prejudices of its paymasters. To all these points it were well that the student should early acquire a habit of attending as a matter of course in all cases.

3rd stage.—After having, then, obtained all the information that a general inspection and appropriate questioning can furnish respecting the origin and progress, causes and effects of the attack, then, unless the disease has become, both as to extent and nature, already sufficiently clear, it becomes necessary to proceed to a minute examination by the touch, by manipulation, by hearing, and sometimes by sight and measurement, of the regions of the body in which there is any reason to suspect disease, or in which it might probably lurk. In other words, we are to proceed to a full application of all the means of physical diagnosis; and, with this view, the abdomen and the chest are the principal objects of attention. The organic changes and morbid actions of which the head is the seat, are as yet scarcely within the domain of the physical diagnosis. But the diseases of the trunk, as you all know, admit of various and most important elucidation of physical means.

Touch.—The sense of touch, including the "muscular sense" or perception of motion, resistance, &c., gives us notice in various regions of the kind and extent of mobility of the ribs and diaphragm, and indirectly of the expansibility and contractility—*i. e.* of the physical condition, of the lungs; of the position, momentum, and extent of impulse of the heart—of the form as modified by disease, of various regions and organs which are usual seats of grave disease; viz. of the subclavian regions in phthisis; of the cardiac region in morbus cordis; of the posterior, inferior, and lateral pectoral regions in pleurisy with effusion; of the clavicular and anterior pectoral regions in emphysema pulmonum, and of the superior and lateral regions in pneumothorax;—the touch also teaches us the place, position, volume, outline, consistence, &c. of the abdominal viscera in many cases; as in depressed, enlarged, &c. liver; displaced, inflated, &c. stomach or intestines; distended uterus, caput coli, bladder; tumors, indurations, tuberculations, adhesions, dropsies, and other chronic affections. This department of diagnosis has of late been especially cultivated and enriched by Dr. Bright, of Guy's Hospital, in great part from the resources of

that magnificent institution. In many cases the eye gives similar information to that afforded by the touch, but seldom so precise. Manipulation also is less offensive, and more generally available, especially in the case of females, than inspection. In some cases, however, the eye detects readily, even through clothing, the nature of the disease. For example, in that most common of senile diseases, humoral asthma (or chronic bronchitis with emphysema pulmonum and paroxysmal dyspnœa), the eye detects readily, in most circumstances, peculiar modes of breathing that mark the disease.

Measurement.—By measurement we are often able to facilitate diagnosis or treatment, and sometimes both, very much in certain pulmonic and abdominal diseases. For example, pleurisy, ascites, and some others—of this some of you have had, in the case of pleuritic effusion, several recent very interesting examples.

Percussion. — The resonance obtained on percussion, and indicating the degree of porosity of the contents of the thorax and abdomen, &c. affords, as several of you are aware, the most valuable information in several diseases. For examples, I may refer to phthisis, when seated, as usual (though of course not always), principally in the upper lobes; or pleurisy with effusion towards the bottom of the chest, and, therefore, principally behind, on account of the slope of the diaphragm; or emphysema in the subclavian regions or along the margins of the lungs; or pneumothorax somewhere in the middle or superior regions of the chest. With respect to the abdominal diseases, I might take ascites or tympanitis, or peritonitis, with liquid effusions, or ovarian dropsy; in all of which, and several other less frequent and important diseases, percussion is of the greatest service.

Auscultation.—The various sounds that attend the functional actions of the heart and lungs, throw light, you are all more or less aware, in one way or another on most pectoral diseases; and also, on that very important question, the diagnosis of pregnancy in suspected or doubtful cases: for example, the unusual sound, or defect of usual sounds, attending valvular disease, pericarditis, neuroses, and asthenia of the heart; the sounds attending the act of inspiration, more especially in bronchitis, incipient pneumonia, excavating phthisis, &c.; those attending forcible expiration, (especially if spasmodic, as in coughing,) in various stages of phthisis; the deficiency of lobular penetration and expansion, and consequently of vesicular sound in early phthisis, advanced pneumonia, pleurisy, emphysema, &c.; the modifications of the voice in pleurisy with effusion, fistulous vomica, physical induration in the upper lobes, &c. &c.

Thoracic motions. — Frequently also, as already cursorily and generally stated, useful indications are obtained from observing the motions and noting the mobility of the parietes of the cavities of the trunk, especially the thorax. Ex. gr. in phthisis, in the superior anterior regions; in pleurisy and pneumonia, in the lateral and the posterior inferior regions, &c. From the manner and degree of motion of the ribs, when distinctly observed, may generally be deduced, with tolerable accuracy, the degree of permeability by air, and of expansibility of the lungs without any aid from auscultation. Unfortunately, however, there is a very large proportion of cases in which, owing to corpulence, delicacy, dyspnœa, induration and immobility of the cartilages by age, &c., &c., no sufficient information can be had by such simple and easy means, and in which, penetration by air, or the reverse, can be proved but indirectly; viz.—by the sounds of breathing.

It can be seldom necessary to employ all these means, and not often one half of them is employed before a satisfactory diagnosis is obtained, even in cases in which a physical examination is indispensable. And of course it would be improper to use more than the nature of the case made necessary; but in this, as in other things, while it is difficult to lay down a sufficient rule of conduct in words, it is easy in practice to find how to avoid giving needless trouble, and yet without omitting any proper inquiry.

Supplementary inquiries — Amongst the physical means above omitted, and which are seldom needful, but when proper, are indispensable, are examinations per vaginam et anum; inspections of the throat, or of the evacuations; testing the urine, possibly also the sputa; also any matters rejected by the stomach, &c. None of these are necessary except under special circumstances, and may, consequently, with propriety be omitted in the vast majority of instances. Now it is scarcely possible, that after a careful survey and questioning the patient and his attendants, the necessity for a propriety of making any of those mostly unpleasant examinations (should any such necessity exist) could escape the attention of the well-informed practitioner. It is sufficient, therefore, here to say, that the possible propriety of instituting such inquiries should be always had in remembrance.

Having thus collected all the data furnished by general inspection, appropriate questioning, and physical examination of the person as to the causes of the disease

remote and proximate, we are usually in a position to pronounce authoritatively as to the nature of the disease: to name its prominent morbid actions and conditions: to declare their seats and mutual relations as causes and effects: to announce in a general way their usual courses and proba ble results; and to judge approximatively, at least, of the leading indications of treatment.

Before, however, we come to a decision as to Practical Measures, we have still, in all important cases, to determine upon certain grave and often difficult ulterior questions, our answers to which must be founded on the condition, principally, of certain capital functions of life. These questions are:—

1. The Type, or Diathesis of the disease.
2. The Present Condition of the Constitution, whether sthenic or asthenic, extenuated or fleshy, sluggish or irritable, succulent or anæmic, &c., &c.
3. The General Vital Capabilities, as adequate or inadequate to the exigencies of sickness; estimating those capabilities by the age, the original stamina, the previous diseases, and observed juvantia and lædentia, the habits of life, as to diet, regimen, occupation, and other predisposing influences, &c., &c.

1. Of these the first, viz., the Type and Diathesis, refers only to febrile and inflammatory diseases. These terms have been used very variously by authors, but may be held, in a practical sense, to denote certain prominent characters of diseases, indicating some peculiar ulterior tendencies, and some appropriate general principles of treatment. First, as to the class—Fevers. It is not sufficient to ascertain the species, whether exanthematic or not, whether remittent or intermittent, or continued; but it is of great importance to ascertain whether its tendencies be inflammatory or nervous, gastric or hæmorrhagic; whether, if they include visceral fluxions in any particular cavity, these be of increased vascular action simply, or congestive and adynamic, &c. On our adoption of one or other of those alternatives must depend very much the general character and special means of treatment.

Then, as to Inflammatory Diseases, it is well known that their remedies depend much upon diathesis. How often does it happen in this house, (and, indeed, every where, that personal observation and not scholastic system governs treatment,) that diseases, physiologically speaking, inflammatory in common, and seated in the same organs, are handled on different, if not opposite principles? For example, take the pneumonia that occurs in the course of phthisis, or in scrofula, and some other cachectic conditions, as compared with that which supervenes in healthy children on hooping-cough, measles, &c.; or with the pneumonia without complication, that we have in previously unbroken adult subjects.

2. Then, with respect to the Present Condition of the Constitution, it is obvious, that on the state of the leading functions and general habit, whether of a sthenic or an asthenic character, must in a great measure depend the probabilities of survival, the susceptibility of benefit from a nutrient and cordial, or from an antiphlogistic treatment, &c., &c.; and, in short, the general character of our practice. This is exemplified, probably most stikingly in fever, in different instances of which some of you have seen used with good effect considerably different plans. Some treated with little more than effervescing draughts at short intervals, and cold lotions to the scalp; with others, by no means unlike the former in symptoms, and clearly of the same nosological class, you have seen used pretty freely, in addition to minor remedies, wine, ammonia, camphor, &c., and in a few cases leeches applied more especially to the head. Occasionally also, in complicated cases, you have seen numerous blisters and mercury employed. Nor am I aware of any important difference between the ultimate results of these different methods, that might not fairly be attributed to circumstances independent of us, viz., in the less successful cases, to advanced age, or previously broken constitution, or organic disease, or other equally uncontrollable causes.

3. This brings us to the third topic, viz., the General Constitutional Capabilities, as modified by age, sex, former habits of life, &c., &c. By attention to this consideration we are enabled to avoid serious error in various cases. For example, to avoid using antiphlogistic remedies in inflammations occurring in intemperate persons, or in persons debilitated by insufficient nutriment, bad air, age, &c., as we should in ordinary cases: also, to avoid confounding neuralgic irritation with inflammatory mischief; a most frequent error in practice, &c., &c.

Now, these three inquiries, viz., 1. Type and Diathesis of the disease; 2. The Actual Condition, dynamic and material, of the Functions and Person; 3. The presumable General Capabilities of the subject; are, in grave diseases and urgent cases more especially, of paramount importance. They are no nice matters of scholastic or technical diagnosis or classification, but questions pregnant with important practical results for good or for evil. When brought in aid of the tact and foresight that an habitual

attention to those governing indications I have just alluded to usually confers, the new lights of Avenbrugger and Laennec and their disciples, are of great value. The physical semeiology gives more precision to the anticipations and self-reliance to the endeavours of the Hippocratic practitioner. But, in a practical sense, an accurate knowledge of the physical condition of the heart and lungs, &c., would often be worse than useless to the physician, who could not otherwise correctly appreciate the vital capabilities and resources evinced in the leading functions and general constitution. To illustrate this by example :—hypertrophy of the heart is met with at all ages, but is common only after maturity. Like all structural affections of organs for which there is no complete repose, and little restorative relaxation, comparatively speaking, from functional labour, this disease admits commonly of more or less palliation, though seldom of *bonâ fide* cure. The tendency to disordered action may often, it is true, be restrained for long periods together, by due regulation on the influences that modify the dynamic condition of the organ, although the effects of excessive nutrition, in the unusual development of the muscular and other tissues of the heart, are commonly little abated, and, perhaps, never wholly are removed by any remedies, however heroic and perilous. This disease, when met with in young subjects more especially, but also in vigorous adults, sometimes admits of a treatment resembling to a certain extent the Sangrado method of Professor Broussais and his followers; while in advanced life a nearly opposite plan is usually the most successful. Whence the difference? The hypertrophy may be alike in each as to seat, extent, &c., and yet opposite practical views must often be entertained both as to diagnosis, prognosis, and indications of cure. The cause is the difference between ripening and decaying vital energy consequent upon the difference between early and advanced age; and of this difference there is no mechanical or physical diagnosis. In persons also of the same ages, sexes, &c., the same disease, *Morb. Cordis*, for example, may present the most various and opposite characters. In one, that of habitual debility in the systole, pulse, &c., with, frequently, rhythmical irregularities. In another, that of sluggish action, interrupted by paroxysms of violent spasms, either spontaneous or from voluntary efforts, and constituting the palpitations so familiar to most cardiacs. In a third, that of almost constant turbulence and preternatural impetus; and in others, various combinations of those simple forms of cardiac derangement, with superadded disease of other organs. Now, in most cases, I think such differences of effect and symptom can be referred to no corresponding material differences, but only to differences of organic vital endowment and dynamic conditions, *i. e.*, to differences not cognizable by percussion, auscultation, manipulation, or other physical means. Illustrations of the same tendency abound in the history of chronic pulmonic disease, scrofula, hysteria, &c.; and in those of fevers and inflammations supervening on visceral organic disorders.

We have thus passed in review all the principal points of inquiry, as to the remote causes to the organic conditions or proximate causes, and to the external manifestations or symptoms; reserving for another occasion the full consideration of the circumstances indicating the general nature of the treatment required, as well as the state of the powers of the subject as adequate or not to bear that treatment, as well as the pressure of the disease itself. All this done, there remains only for the practitioner the particulars of medicine, diet, and regimen to be ordered.

One topic remains to be considered, viz., a summary view of the principal source of fallacy to be guarded against in the examination of the sick.

[To be continued.]

ON THE VOLUME AND FORM OF THE HEAD IN IDIOTCY,

Considered in their Relations to the Intellect.

By M. Desmaisons-Dupallans.

Is there in idiotcy a constant relation between the volume and form of the head and the arrest of the development of the intellectual faculties? M. Desmaisons has submitted this proposition to the test of facts of measurement, on twelve idiots at the Bicetre. In nine of these the idiotcy is complete; the three others are in that condition to which M. Esquirol peculiarly applies the name of imbecility.

The extreme dimensions which were found are as follows:—

	Millimeters.	
Horizontal circumference . .	571	487
Curve from the root of the nose to the occipital tuberosity	340	310
Antero-posterior diameter .	195	168
Transverse diameter	157	128
Anterior semi-circumference	310	258
Posterior semi-circumference	261	239

Taking, for the sake of comparison, the two individuals who presented these ex-

tremes, the author inquires whether, in their degrees of imbecility, there is a difference analogous to that in the size of their heads, and he finds that there is no more instinct or trace of any faculty in the idiot whose head is largest, than in him whose head is smallest.

These researches having been made exclusively on adult idiots, presenting neither contraction nor paralysis of the limbs, nor any other external signs of chronic hydrocephalus, one cannot, under the pretext of the influence of that condition on the size of the head, reject this first fact—that the volume of the head may increase, and idiotcy remain complete.

Comparing the volume of the head in the individuals of this series, who differ most in regard to the development of their intellectual faculties, M Desmaisons finds that the least dimensions occur in him who is the most intelligent; which establishes this second fact -- that the volume of the head, in idiots, is not proportional to the development of intellect.

Lastly, the following propositions proceed from other parts of M. Desmaisons' memoir :—Idiotcy sometimes exists without deformity of the head, and it is impossible to assign any deformity peculiar to idiotcy when the volume of the head and its symmetry are preserved. In cases of this kind, the flattening of the posterior part of the head is as frequent as that of the front.—*L'Experience, Janv.* 9, *from L'Esculape*, T. i., Dec. 1839.

CONSEQUENCES OF LIGATURE OF THE COMMON ILIAC ARTERY,

NEAR THE BIFURCATION OF THE AORTA.

By Professor Salomon, of Petersburg.

In this case the left common iliac artery was tied nearly a year before the death of the patient, for an aneurism of the external iliac. The cure was deemed perfect; the tumor almost entirely disappeared, and the free use of the limb was restored After remaining well for ten months, the patient exposed himself to the cold in the open air during a stormy night, with but little clothing on. Rheumatic inflammation of the psoas muscle (*psoite rhumatismale*) was brought on, and though treated by the most energetic antiphlogistic means, suppuration could not be prevented. An abscess formed, and was opened three weeks from the beginning of the symptoms, just below Poupart's ligament. He died shortly after, worn out by the suppuration.

Before examining the body, the abdominal aorta was injected. Inspection shewed that pus was collected along the psoas, beneath the fascia iliaca, and on the outer side of the femoral vessels. The iliacus internus muscle was as it were dissolved by the ichorous pus, and the internal surface of the ilium was exposed. The abscess had formed outside the peritoneum along the outer portion of the aneurism; but the pus had not passed inwards to the femoral ring; at this part there was a fibrous mass which remained from the internal portion of the aneurism. No fibrous clot was found; it had no doubt been already completely absorbed.

The injection had passed into both legs. It was easy to see by the contracted and firmly adherent part of the left common iliac that it had been tied about half an inch below the bifurcation of the aorta. It was converted into a ligamentous cord throughout its whole length. A little of the injection had passed into the left external iliac through the medium of the left internal iliac artery. The maintenance of the circulation was chiefly effected by the very dilated lumbar arteries, whose branches anastomosed with those of the left circumflexa ilii. The lower extremity was also in a great measure supplied with blood through the free communications between the two internal iliacs. The left femoral artery was injected to within two inches below Poupart's ligament. The common, external, and internal iliacs, on the right side, were considerably dilated; and in the left thigh it was chiefly the ischiatic and obturatrix arteries that had increased in size.—*Zeitsch. fur die gesam. Heilk and Gazette Medicale.* Dec. 14th, 1839.

ACADEMY OF SCIENCES, PARIS.

The Academy of Sciences of Paris has proposed as the subject for a prize of 10,000 francs, to be accorded in 1842, the following question :

Is the preservative power of vaccination absolute, or is it only temporary ?

In the latter case to determine by precise experiments and authentic facts, the time during which vaccination defends from small-pox.

Has (the fresh matter of) cow-pox a more certain, or more permanent, preservative power than the vaccine which has been already employed in a more or less considerable number of successive vaccinations ?

Supposing that the preservative power of vaccine grows weaker by time, should it be renewed, and by what means ?

Has the greater or less intensity of the local phenomena of vaccination any relation to its preservative power ?

Is it necessary to vaccinate the same person several times, and, if it be, after how

many years should the vaccination be repeated?

The memoirs for this prize must be sent to the Secretary of the Academy before the 1st of April, 1842.—*Comptes Rendus*, Dec. 30th.

[We recommend the subject of this prize to our readers, among many of whom it has, doubtless, of late been considered with much attention. The recent adjudgment of one of the Montyon gold-medals to our talented countryman, Dr. Bright, is a sufficient earnest of the absence of all feelings of nationality in the decisions of the Academy.—Ed. Gaz.]

BLOOD-GLOBULES IN THE CROCODILES.

By M. Mandl.

The blood-globules of the cayman (Crocodilus Lucius, Cuv.) present, says M. Mandl, quite a peculiar form. They are very elongated ellipses, whose longest diameter varies from 1-35th to 1-40th of a millimetre, and their shortest from 1-100th to 1-95th. The proportion between their diameters is therefore as 1 to $2\frac{1}{2}$, or as 1 to 3, while, according to my own researches, as well as those of MM. Prevost and Dumas, Wagner, Schultz, &c., the proportion between the two diameters of the blood-globules, in fish, reptiles, and birds, is as 1 to $1\frac{1}{2}$, or at most as 1 to 2.—*Comptes Rendus*, Dec. 23, 1839.

MONTYON PRIZES.

On a report made by M. Serres, in the name of the Commission charged with the examination of the papers sent in for the concours for the prizes in medicine and surgery on the Montyon foundation, the Academy (of Sciences) accorded gold-medals of the value of 1500 francs to Dr. Bright of London, and to Drs. Martin-Solon, and Rayer, for their works on albuminuria or albuminous nephritis; a gold medal of the same value to M. Ricord for his treatise on syphilitic disease; and the sum of 1000 francs to M. Martin for the invention of an artificial leg.—*Comptes Rendus*, Dec. 9, 1839.

MR. R. ALCOCK.

We learn that a distinguished honour has lately been conferred upon a member of the profession by the Queen of Spain. By Royal decree the insignia of Knight of the Royal Order of Charles III. has been bestowed upon Mr. Rutherford Alcock, for his services in Spain while Deputy Inspector-General of Hospitals in that country. This is the second most distinguished order in Spain, being ranked next in estimation to the Golden Fleece. We believe that Mr. Alcock is the third member of the medical profession in England who has obtained it. Dr. Hume, the Duke of Wellington's physician, received this honour at the close of the Peninsular war. According to a late history of distinguished European orders of chivalry conferred on British subjects, there are not more than thirty who have received this decoration.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Jan. 23, 1840.

G. F. Whiteley.—Henry Beevor, Newark-on-Trent, Notts.—Abram Cox, Edinburgh.—James J. Evans.—W. B. Fegen, Gosport.—P. Howell, Brighton.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Jan.* 21, 1840.

Abscess	1	Fever, Typhus	1
Age and Debility	22	Hæmorrhage	1
Apoplexy	1	Heart, diseased	2
Asthma	7	Hooping Cough	1
Childbirth	3	Inflammation	9
Consumption	20	Bowels & Stomach	1
Constipation of the Bowels	1	Brain	5
Convulsions	9	Lungs and Pleura	6
Croup	1	Influenza	1
Dentition	4	Liver, diseased	1
Diarrhœa	1	Measles	1
Dropsy	9	Mortification	2
Dropsy in the Brain	5	Sore Throat & Quinsey	1
Fever	4	Unknown Causes	62
Fever, Scarlet	3	Casualties	4

Decrease of Burials, as compared with the preceding week . . . 123

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ *W. of Greenwich.*

Jan.	Thermometer.		Barometer.	
Thursday . 16	from 35	to 43	29·64	to 29·70
Friday . . 17	34	43	29 46	29·72
Saturday . 18	25	49	29·84	29·62
Sunday . . 19	55	42	29·45	29·50
Monday . . 20	39	47	29 51	29·50
Tuesday . . 21	41	49	22·28	29·49
Wednesday 22	51	41	29·60	29·74

Prevailing wind, S.W.

Except the 16th, generally cloudy, with frequent and heavy showers of rain. Wind very boisterous on the 21st.

Rain fallen, ·9875 of an inch.

Charles Henry Adams.

NOTICE.

We have received, and purpose to give in our next, Mr. Farr's very improved Tables of the Mortality in London.

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, FEBRUARY 7, 1840.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.
Surgeon to the St. Marylebone Infirmary.

GUN-SHOT WOUNDS—*continued.*

Treatment generally — Implicating Cavities, Cranium, Thorax, Abdomen, Question of Amputation.

Treatment.—Usually inflammatory action is very acute, and strangulation of the tissues very probable; it is rarely developed before the fourth or fifth day. The danger is still more urgent when these wounds are in the vicinity of joints. One singular circumstance is observed in these cases; the surgeon sees all the danger, the patient none; he objects to amputation for, apparently, so slight a wound; he temporises it then too late, and he dies.

An important question for us to consider is this:—Should the inflammatory action always be treated in the same way? A man receives a shot in the thigh; the thigh is puffy and numbed; his pulse is soft and easily depressed, his skin is yellowish and clammy: should antiphlogistics be employed in this case? Certainly not; the local numbness should have ceased; the circulation should be strengthened; aromatics, stimuli, and warmth, must be used. When, by such means, re-action has come on, we may bleed: the next question is, should we in these wounds bleed as largely as in ordinary contused wounds? Upon this point there is a difference of opinion: some surgeons are afraid of large bleedings, thinking it enfeebles too suddenly a patient already broken down by the fatigues and privations of war. No doubt, we should be reserved in bleeding when the patient is feeble, that is, it is necessary to be discreet; proportioning the bleeding to the strength of the patient. There are cases where extreme youth, or extreme old age, are not reasons for withholding general blood-letting. Another opinion entertained by many military surgeons is, that among soldiers a "saburral" state of the stomach is common, and that it requires the employment of emetics and emeto-purgatives when wounds are received. That such cases may be found is no doubt true: stupor or fright may produce nausea, vomiting, and a straw colour.—When this state exists, no doubt emetics, emeto-cathartics, and saline purgatives, will be found useful.

A most pressing circumstance in gun-shot wounds is to prevent or relieve strangulation; incisions for the relief of this condition are indicated by a variety of circumstances, but there are regions of the body where they can only incompletely be practised, and they are then comparatively useless: a ball passes through the hand, having fractured the metacarpal bones: how can we cut the palmar fascia without opening the superficial palmar arch, and perhaps injuring the tendons? Position in such cases may do much in rendering it unnecessary. I do not think incisions should generally be made in the direction of the wound; we may injure important vessels, and may experience much difficulty in tying them; we detach the clots, hemorrhage is renewed, and what good purpose is attained?—a larger wound, and more inflammation. If you wish to prevent strangulation, you should make a crucial incision through the aponeurosis. Spanish surgeons do not make incisions except for the purpose of extracting foreign bodies; they employ opium in large doses, which, they say, calms the pain, and prevents inflammation. When you make incisions to enable you to extract

a foreign substance, first endeavour to assure yourself of its position; sometimes it is near the entrance, at others deeper, even at the opposite side of the limb. You may not be able either to see it or to feel it, but in making pressure we may give pain at a certain spot, or it may lie against a nerve, and the point where the pain is felt may then be an indication of its situation. These means failing, sounding may be necessary, but it must be very carefully done; the patient should be placed in a position similar to that in which he received the injury; even then, the sound will often not pass in the course of the ball. To lessen the chances of making false routes, and injuring blood-vessels, an elastic or common bougie may be used. If you find nothing, the opening may be enlarged a little; you carefully introduce the indicator finger; if then you do not find the bullet, you must not incise again, and obstinately persevere, otherwise you may add another evil to that which already exists. A ball left in the part will often be less injurious.

When we have found the ball, should we extract it by the opening already made, or should we make a counter-opening? No general rule can be applied to this subject: if it be not very deep, you may try to extract it, but if it be placed near a nerve or an artery, and the ball cannot be extracted without enlarging the canal, whether you do so, or make a counter opening, it must be done with much caution. The section of a large nerve paralyses a limb; the section of a large blood-vessel may destroy life. As a general rule, you should always extract a foreign body by the shortest and least dangerous route. If you have succeeded in extracting the ball, first see that it is entire; examine the clothes; be satisfied that no portion has been carried into the wound. A ball may penetrate into the substance of a bone; it is usually in the spongy portion that this happens; few or no attempts should then be made to extract it. If three-fourths of the ball be embedded in the substance of the bone, the screw bullet-drawer or elevator should be used; if the bone be superficially seated, elevators and other means may be employed. The bone around the point will be necrosed, suppuration will take place, and the ball will be loosened, and may come away. It may have penetrated deep into the bone, may remain there long; the opening it made is closed: after some years abscess may form, and fistula, but the ball may still remain. The ball may rest between two bones, for instance the tibia and fibula, or the ribs, and extraction may then be very difficult. If it be between two ribs, you must be very careful lest in the attempt to extract it you penetrate into the thorax, or push the ball in. When a ball implicates an articulation it may be arrested by the bones; may fracture them: these are very serious accidents: in a few rare cases the patient may do well, but in the majority of cases he dies under the intensity of the inflammatory action. Vast abscesses are in these cases usually found around the joint, and pus even within it. At first sight it might seem, that as we know well the nature of such an accident, its treatment would be simple, but it is not so. Some surgeons decline to amputate, being content to treat energetically the symptoms as they occur. My opinion is, that when a bullet implicates a large joint, you cannot hesitate, you must amputate at the earliest convenient moment. Where the knee is injured, the urgency is greater than when the elbow is affected. The latter may get well by anchylosis, the former scarcely ever does. In wounds of the joints of the lower limbs the danger is much greater than in those of the arm. If a ball has passed through, or lodged in the knee-joint, immediate amputation is necessary. Some surgeons advise that the limb should be extended, and that you should cut upon and extract the foreign body. This is, I think, a bad course to take, and may end in loss of life. If the ball have passed through the inferior part of the femur, without implicating the joint, the prognosis is less unfavourable. The wound may sometimes do well without amputation.

There are many circumstances in wounds implicating splanchnic cavities which it is necessary to allude to. A ball may penetrate into the substance of the cranial bones, without traversing them. This ball may be extracted by the screw bullet-drawer; but this operation is not without danger; it may be forced into the cranial cavity; if any considerable difficulty be experienced, it would be better to apply a crown of a trepan, large enough to fairly inclose the ball. Little more bone will be lost than in the vain attempts to dislodge by other means, for necrosis would affect the bone to a certain distance around the ball. The ball may penetrate; it may be flattened upon the dura mater; may pass for some distance between the dura mater and the cranium; may even pass in this way to the opposite side of the head. How it happens that a ball having force enough to penetrate into the cranium wants force enough to perforate the dura mater, I do not know. Five or six authenticated cases of the kind are on record. When a ball has penetrated into the cranial cavity, it is necessary to search with great care, to ascertain whether it has perforated the dura mater, or whether it has taken a course between it and the skull. These wounds are extremely serious, even though the ball may not have passed into the brain, because there is contusion, at

least, of the dura mater and the brain; indeed the meninges may have been partially destroyed. It must be evident, therefore, that even if we have succeeded in extracting the ball, the condition of the patient must be one of great peril; there may be inflammation of the membranes, of the brain itself, necrosis, or caries. But if the ball has passed into the substance of the brain, the case is still more serious. Even then it is necessary to make some search for the ball, to ascertain whether or not it has penetrated deeply. If the ball be left to itself there, by the influence of gravitation it gradually sinks down, and the symptoms often become more intense as the ball gets lower. The advice usually given is, that when a ball has not penetrated farther than an inch, or an inch and a half, we should take means to remove it; the hole through which it passed in must be enlarged with a trepan, and the patient placed in such a position as would give the ball a tendency, by its own weight, to find its way towards the opening. If these means be insufficient, some surgeons advise that the cerebral substance should be incised, so as to make way for it. But this is a dangerous operation. Still there are many instances of cure, when much more serious injuries than those so made by a bistoury have been inflicted on the brain; men have survived when portions of brain have been cut away by swords or projectiles. If the ball be deeply seated, should we attempt to extract it? The general opinion is opposed to it—we should wait the event, because all persons who have bullets in the cranium do not die. There is a well authenticated case of a general officer who received a bullet through the temple, which was buried in the substance of the brain; the immediate result was complete blindness; the ball remained there twelve years, when he died from cerebral disease, near the seat of the ball. It is, therefore, possible to live many years with a bullet in the brain, but an obstinate search would infallibly destroy the patient. If you refer to works on military surgery, extraordinary cases of recovery, after gunshot wounds of the head, may certainly be found. A soldier, tired of life, charged his piece, and left the ram-rod in it, put it to his mouth, and fired it off; the rod passed into the cranium, and rested between the parietal bones; he fell down senseless; the most serious symptoms were declared: portions of bone were removed, but ultimately the patient got well without paralysis, or loss of his intellectual faculties. I do not wish you to understand that you have any right to expect that a patient so wounded will recover, but to show you that, however desperate the injury, you must not relax in the use of the most energetic means, because we can set no limit to the reparatory power of nature.

A ball may strike the sternum, without penetrating; the bone, however, may be contused, may inflame, may suppurate. The pus may make way to the surface; sometimes, however, it is poured into the cellular tissue behind this bone—the anterior mediastinum. When pus exists there, the accumulation daily increases, and may interfere with the heart's action: for some time the diagnosis of this accumulation is difficult: in some cases pericarditis has been suspected. This abscess may point at the side of the sternum, between two ribs; the disease is then readily detected; at other times makes it way through the sternum, to the part directly injured by the ball. In other cases, the abscess, instead of pointing, extends upwards and downwards, takes the course of the cellular tissue, which establishes a communication between that of the thorax and that of the abdomen, and it may then point behind the superior extremities of the recti muscles. Similar abscesses are sometimes formed in scrofulous caries of the sternum. Thus, when a ball has struck the sternum, where the skin has not been broken, or even greatly contused, it is necessary to bear in mind that this inflammation may supervene, and may have most serious consequences. If the ball be lodged in the sternum, the probability of such consequences is greater, though it has happened in young and healthy persons; the wound may suppurate, and heal without necrosis or caries. In older persons the bone may be necrosed, exfoliation may take place, and all may do well. If the ball be embedded in the bone, it will be proper, with a strong scalpel, to pare away the bone around it, so as to facilitate its extraction; many persons, however, prefer to remove the ball and the injured bone around it by means of the trepan, which is an easy and tolerably harmless operation.

A ball may penetrate into the chest, through the sternum, fracturing a rib. Sometimes the ball cannot be felt in the vicinity of the wound, either by the fingers or by means of a bougie; it is then extremely difficult to say where it will be found. It may be in the substance of a lung, may have passed through one lung into the other, may be situated behind them, near the vertebral column. When we cannot find it near the wound, we must not obstinately search for it; we must quickly anticipate the occurrence of what is most to be feared—inflammation of one or other of the thoracic organs, and effusion. Many persons survive these wounds, many are perfectly well after-

wards. Many owe this good fortune to the most happy accidents. In some respiration is interfered with, occasionally from deep-seated chronic inflammatory action. A soldier received a ball below the right nipple; he was enfeebled by many days' fatigue and abstinence, and by a large quantity of blood lost after the receipt of the wound; he was pale and cold, the ball could not be found; he was put to bed; the pulse improved, and he was ordered to be largely bled. The next day he was found sitting up in his bed, respiring freely, and speaking without effort. The surgeon pointed out to those around him the good effects of the bleeding, when it was ascertained that the bleeding had not been performed; but it appeared, that during the night a very large quantity of blood had been lost, to which, no doubt, he owed his safety; still he was bled twice in the succeeding forty-eight hours. In such cases the only treatment which can be prudently employed, is bleeding, saline antimonials, and rigid diet. Sometimes those bullets which had been lodged in the chest find their way down to the diaphragm, and may occasion abscess there; soon it points between two ribs; it is opened, a good deal of pus escapes; the ball does not then escape, but a fistulous canal is established. Sometimes the ball is felt; it should then be extracted; but before this is done it is necessary to trepan or excise a portion of one rib, because anteriorly the space between the ribs is too narrow to allow a ball to pass. When a ball is seated in the substance of a lung, the patient often survives the violence of the primary symptoms, although they may be very urgent—a vomica may be formed. Now, have we any certain sign by which its presence may be indicated? I think not. It is extremely difficult to distinguish a vomica; we may suspect it, but I apprehend it is no easy matter to distinguish between a vomica and central hepatization, when the patient does not expectorate purulent matter. This vomica may sometimes make way towards the pleura, may inflame it, may cause the two pleural surfaces to adhere, may point at the cutaneous surface, and if opened, a large quantity of pus escapes, out of all proportion to the apparent bulk of the tumor; it may remain long fistulous, but may ultimately heal, even though the ball be not extracted; at other times they open into a bronchial tube, and a large quantity of pus is expectorated; sometimes the pus is very fetid, at other times no such quality is observed. You can readily understand that when a vomica is occasioned by a ball, it cannot be rejected with the pus; it does not ascend in the tubes enough for that; it remains to irritate until the patient is exhausted, and dies of traumatic phthisis. I would not, however, say that it was impossible that any foreign substance could be thus thrown up. A man had empyema, the abscess broke, a fistulous opening remained; this was stopped up with a small roll of lint. One day this passed into the wound, and could not be extracted; long after he had a violent fit of coughing, and threw up the plug (Marjolin): the suppuration gradually diminished, and the man got well.

Wounds of the Heart.—A wound may implicate the heart, and it is the most serious circumstance attendant upon the thoracic cavity. All parts of the heart are not equally exposed to these injuries; the left ventricle is, as it were, placed behind the right, and is therefore much less exposed to wounds which are much oftener made in front than behind. In fact, wounds of the right ventricle are much more frequent than those of the left. Of sixty-four cases of wound of the heart, twenty-nine times the right ventricle suffered, twelve times the left; in nine both suffered: three times the right auricle, once the left, seven times the apex, or base of the heart, was injured; in three cases the injured point is not indicated. A contused wound of the heart may occur in consequence of contusion of the chest, with fracture of the sternum. A. Sanson saw a case in which the heart presented a transverse wound, an inch long, not penetrating; the patient lived thirteen days. A very small puncturing body, such as a long acupuncture needle, may pierce the heart, without pain or much inconvenience, though Senac was of an opposite opinion. Some wounds of the heart are immediately mortal; those of the left ventricle destroy life most suddenly. Diemerbrock attended a duel where one of the combatants received a sword-wound in the chest, and immediately fell, "Quasi fulmine ictus concidit, moxque extinctus est," and his pulse as quickly ceased; the sword had passed through the left ventricle. Many similar sword-wounds might be mentioned, but at present our business is with gun-shot wounds. Priou mentions a case where a gun-maker was trying a pistol; it was loaded with balls; a man was entering his shop, and was struck; he immediately fell dead; one of the balls had passed through the heart. Senac believed that in these cases the sudden death was caused by hæmorrhage; this opinion is incorrect, for in most cases the quantity of blood found in the chest is not very large. Morgagni attributes the suddenness of the death to the difficulty the blood has to get out of the pericardium; from which results compression of the heart, suspension of its functions, and death. This is a rational explanation, strengthened too by the cir-

cumstance that non-penetrating wounds are never rapidly mortal. It is true, however, that all penetrating wounds are not promptly mortal. A beggar of Milan received a knife-wound which traversed the anterior wall of the left ventricle: little blood followed the wound: he walked seventy steps, sat down, and died in half an hour (Morgagni). In Featherstone's case, which was a bayonet-wound penetrating into the left ventricle, the patient lived 49 hours. In Fantoni's case a sword passed through the left ventricle, and the interventricular septum; the patient lived 17 days. (Where both ventricles are implicated death promptly follows; where the auricles are wounded life has been extended to the twelfth day (Saviard). To sum up these cases I may say, that wounds of the right ventricle are most frequent, but least promptly mortal. Caillot mentions a case where the patient lived twenty-eight days.

Symptoms.—The symptoms of wounds of the heart are by no means unequivocal; the seat and direction of the wound may afford a presumption; the blood which flows from it is an uncertain sign, it may be much or little; sometimes a wound of the heart produces immediate syncope, sometimes the patient walks to some distance; sometimes there is acute pain, at other times none. Generally the heart's action is tumultuous; the pulse may immediately cease to be perceptible; most frequently it is feeble and small, then it becomes fuller and quicker; sometimes it intermits irregularly; the differences, in fact, are very great. Dyspnœa is not less variable; at first it is generally slight, but increases with the approach of death; sometimes respiration is unimpeded; often there is a dry fatiguing cough. The patient can usually lie on the wounded side; sometimes it is impossible to lie on the back, at others, that is the only bearable position.

Prognosis.—All ancient authors, without exception, considered wounds of the heart mortal, but non-penetrating wounds may be cured; and evidence is not wanting to support the opinion that in brute animals, and even in man, a penetrating wound may be cured. Jacot found the end of an arrow in the heart of a stag. Duverney found a long needle in the interventricular septum of a cow. Weber saw the heart of a stag with a bullet in the parietes. In 1806 a doe in fine health was killed in Bradley park, in whose heart was found a bullet weighing 292 grains. In dissecting the body of a man who had received a sword-wound in the left hypochondrium, Richerand found the pericardium adhering to the heart by a cicatrix. Latour describes the case of a soldier who was shot in the chest; great hemorrhage followed, the flow of blood nearly ceased on the third day, and suppuration succeeded, and many portions of a rib, fractured by the ball, came away. At the end of three months the wound cicatrised. The only inconvenience felt by the patient for three years was palpitation; in the next three years the inconvenience was less; he died of some other disease in six years from the receipt of the wound. After death the bullet was found in the right ventricle; these, and many other facts which might be mentioned, show the possibility of cure in certain wounds of the heart—shew that all wounds of the heart are not necessarily mortal.

Treatment.—In treating these wounds the first object is to lessen the heart's action as much as possible, by large and repeated bleedings and digitalis. The cases of Saviard, Fantoni, and Durande, shew the importance of these means; the application of cold seems, in the latter case, to have been of great use. We must not however be deceived by the calm which is often seen in wounds of the heart, for bad symptoms may appear in a moment; in Cailliot's case the patient died unexpectedly on the 28th day, from some muscular exertion. It is, therefore, necessary that the patient should for some time be kept very quiet.

Great Vessels and Œsophagus.—A gun-shot wound may implicate the great vessels, but the surgeon is rarely called in such cases; the hæmorrhage is, usually, suddenly fatal. Such a wound may implicate the œsophagus, but then it is hardly possible that other organs can have escaped; the pleura must have suffered, and in all probability the lung. These wounds are extremely fatal, from the facility with which fluids pass into the posterior mediastinum, and from thence into the pleura; they are usually not quickly mortal, the patient may struggle through some days; it will be in vain to introduce an œsophagus sound; you will not save the patient. It is hardly possible to support the tube when the organ is wounded—it is often with great difficulty that a sound is tolerated, even where there is no wound. A ball passing into the chest may lodge in the interior part of the vertebral column; if it interfere with the spinal cord, paralysis of the inferior extremities, the bladder and the rectum, may be looked for. In such cases we can do nothing, for usually inflammation of the cord is excited in a few days, and the patient dies.

Abdomen.—When a ball penetrates the cutaneous surface of the abdomen, it does not always penetrate into its cavity; it may glide for some distance under the parietes; but although the ball has not penetrated into the cavity, it may excite violent in-

flammatory action, which may extend to the peritoneum and to the viscera; indeed this is almost inevitable when the ball has passed along very near to the peritoneum; it happens not unfrequently in these cases that a certain set of symptoms of penetration are manifested. Thus violent and repeated vomitings may occur, the skin may be yellowish, acute pain is felt over the abdominal cavity; in some cases there is tenesmus, frequent desire, accompanied by a retention of urine: but you will observe that blood is not passed either by the mouth or the rectum. The absence of blood in the matter vomited, in the alvine dejection, and, in the urine may fairly induce the idea that the ball has not penetrated the abdominal viscera; that neither the stomach, the intestines, the kidneys, nor the bladder, have been wounded. Still they may have been injured, for in a wound of the stomach, or in one of the intestine, far from the insertion of the mesentery, there may be no effusion of blood into the stomach or the intestinal canal; there may be, therefore, no blood passed by stool or by vomiting. It is necessary to be very guarded in the prognosis in such cases; many instances are on record of sword and other punctured wounds of the abdomen, certainly not penetrating, but which have produced all reasonable sign of penetration, such as spasm, quick hard pulse, great physical depression, paleness, tenesmus, difficulty in urining, &c., and these are true signs of penetration. In wounds of the abdomen, even where the symptoms of penetration are absent, it is better to suppose that they are penetrating: if you admit that they are penetrating, you are on your guard, and may anticipate evil; if you do not, your suspicions are lulled until you find inflammation developed with extreme violence, and the disease about to prove fatal. In case the wound be not penetrating, the patient will not have been seriously injured by a couple of bleedings, and rigid diet. Penetrating gun-shot wounds of the abdomen are much more serious than those of the chest; the cavity is larger, inflammation of the peritoneum usually is more extensive than that of the pleura, and the danger bears a pretty exact relation to the extent of surface affected; many of the abdominal viscera are reservoirs of irritating fluids, and the escape of those fluids into the peritoneal sac is almost necessarily fatal. After having traversed the abdominal parietes, the projectile may implicate the viscera, without necessarily penetrating into the peritoneal sac; a ball may pass just above the pubis, through the rectus muscle, and penetrate into the bladder, without wounding the peritoneum. There are other points where a wound may also avoid the peritoneum: your knowledge of the relations of organs will point them out to you. It has often happened that a ball has penetrated into the thoracic cavity low down, and has passed from it into the abdomen; it is very serious, because it implicates the two great cavities. A ball passing into or through the liver is usually rapidly mortal; in some cases, however, the patient has struggled in great agony, caused by extravasated bile, through two or three days. It is said that a ball may pass into the liver, without injuring the large vessels, and that the patient may be cured. It may be so, but I know of no case in proof of this opinion. Usually, when a ball traverses the small intestines, very soon there is extravasation into the peritoneal sac, and acute peritonitis. Yet, in some cases, a ball shall pass fairly through the abdomen; the intestine may be wounded, perforated, and yet there shall be no extravasation. Why, I cannot tell; it is to me inexplicable, but no less a fact. When the Allies entered Paris, a soldier received a gun-shot wound just above the right hip; he fell down, and was carried to an hospital. The surgeon introduced his finger into the wound, and found that the ball had passed into the abdominal cavity. He was bled several times, leeches were applied to the surface of the abdomen; only slight inflammation followed; and in a fortnight he appeared out of danger. The surgeon began to think that the intestines had escaped injury; but this unfortunate man got hold of a bottle of brandy, much of which he drank; extremely intense peritonitis was developed, and he died. After death, it was found that the intestines had been perforated at several points; these points had become adherent to the neighbouring surfaces, and there was no extravasation: the ball was found near the spleen. Whether this man would have been cured, had it not been for this indiscretion, may be doubtful; still, he was doing very well. In Percy, you find cases where a ball has passed by stool. You must, therefore, bear in mind that though these wounds are generally followed by extravasation, and are mortal, cases will happen in which extravasation does not take place, and in which peritonitis may not be developed. Of all penetrating wounds of the abdomen, those most promptly mortal are those which implicate the aorta, or inferior cava, or the larger mesenteric vessels. Next in rapidity are those where bile is extravasated: the inflammation is then sometimes so intense as to destroy life in fifteen to twenty-four hours. Sometimes violent cellular inflammation may occur, in the iliac fossa, the vicinity of the kidneys, and other places. As a consequence of

this inflammation, large abscesses may form, and they are not easily detected.

Treatment.—As in all gun-shot wounds, so in those of the abdomen, our first care must be directed to examine the wound, and, if possible, to extract the foreign body. The search must be very prudently made, otherwise the ball may be pushed further from the opening, and injury may be done to the part. If, when the patient has been placed as nearly as may be in the position in which he received the wound, and the muscles are relaxed, we cannot, with the point of the finger, or a blunt director, find the body soon, we should desist, for the ball has probably penetrated far. In such a case the opening should not be enlarged; for you substitute a large wound, perhaps, for a small one; you facilitate the ingress of air, and, if the patient recover, he will be subject to the danger of intestinal protrusion at the part. There may be an exception to this rule in wounds implicating the recti muscles near the aponeurotic intersections. If, after having found the ball, we fear the opening to be too small for its extraction, we may enlarge it enough to extract it safely and securely. Supposing, after an examination, we are satisfied the ball is in the bladder, what must we do? Whether the ball passed in above the pubis, or laterally, there is bloody urine; and if we sound the patient the ball is found in the bladder. If the ball have passed just above the pubis, the wound should be enlarged, and we should proceed as in the high operation for stone. If laterally, we must take another course; first, prevent, if possible, inflammatory action. In this case, the wound that we should be obliged to make in the bladder would not correspond with that made by the ball; and if one wound of this viscus be dangerous, two must be much more so. We must, therefore, limit ourselves to prevent inflammatory action, and not attempt to extract it until all fear of peritonitis from the injury shall be dissipated. We must introduce an elastic sound, we must leave it in the bladder constantly open, that urine may not accumulate, and then the chances of extravasation may be lessened. When bullets have penetrated into the intestine, or when they remain between the convolutions, there they must be left: sometimes they pass by stool; they may sink into the pelvis—may occasion abscess there. These abscesses may open into the bladder or the rectum, and the patient may recover. If they open into the bladder, the ball may pass into this organ, and cystotomy may be necessary. In fact, in all penetrating wounds of the abdomen, medical is more required than surgical treatment. Rarely do we recur to surgical operation; in all cases a very energetic antiphlogistic treatment is necessary, to prevent the development of inflammation, or to subdue it when it exists.

Question of Amputation.—All men do not agree as to the cases which require amputation, or the time when it should be performed, after gun-shot injuries. Bilguer believed that amputation should very rarely be performed; his French translator, Tissot, thought it never should. Ill-natured people could not conceive that Bilguer could honestly entertain such an opinion, and insinuated that his sovereign had expressed an idea that, in a poor country, it was unwise to make invalids to be supported by the state. I know nothing which gives colour to the opinion that this was not Bilguer's honest and deliberate conviction. In their treatment, therefore, he took a different course—he incised largely, extracted the foreign body, and, it is said, his success was very great. But, it must be remembered, that many so cured are not less invalids, nor better able to move about than those who have undergone amputation. In the former, much pain is often experienced upon change of weather or fatigue; they may be lame, have obstinate fistula, whilst those who have had the limb amputated are often in good health. Many surgeons entertain a directly opposite opinion, and they have also been blamed for sacrificing limbs which might have been preserved. Between these exclusive opinions there is a mid-way course—there is a rule which may be safely followed; "Whenever, by seeking to save a limb, you expose the patient to a probable chance of loss of life, you should amputate." When the wound is of such a character, that, although we may preserve the limb, it is so mutilated as to be useless, and more troublesome than a stump, we should amputate. But these rules must bend to circumstances. Thus, a civilian is the patient; he need not be moved far, can be seen two or three times a day, and can be well taken care of: on the other hand, the patient is a soldier; the wound is similar; every three or four days he must be moved to a considerable distance, his medical attendant changed at every dressing, the hospitals crowded and unhealthy. In the one case we may hope to save a limb, in the other there is not a chance of it.

There are certain cases where the indication is clear: a limb may be completely carried away, or it may merely hang by small attachments; here amputation is already performed, but it may be necessary to do it afresh. The wound may be very irregular—must be contused, and will be the seat of profuse suppuration.

When you first examine it, it may not bleed, but after some days secondary hæmorrhage may come on; the ligature cannot then be applied, for the artery will give way under it. Sometimes the bone projects far, or may be fractured into the soft parts. It is, therefore, advisable to substitute a regular for an irregular wound. Supposing a limb to be carried away, where should the secondary amputation be performed? If the wound be made near the inferior extremity of a portion of a limb, amputation may be performed higher up in that portion. But if the wound affect the middle of the tibia, for instance, what must be done? The bones must be carefully examined; if the bone be not fractured into the soft parts, and if there be not great infiltration and tumefaction, we may amputate below the knee; and so with the arm. When the thigh has been carried off at its middle, the case is very serious; it is one of the most fatal wounds which can happen to a limb. Examine the patients in any national invalid establishment, you will find very few who have survived amputation of the thigh for fracture of the middle, resulting from gun-shot wound. Most of them die from primary accidents, or the consequences of amputation, or from consecutive accidents when amputation has not been performed. Higher up the case is still worse, but not always fatal. In these cases, Revaton says, if you do not amputate they are almost constantly mortal. Schmucker says, you will not save one in seven. Ribes never saw one cured. At the Hotel des Invalides, in a total of 4,000 persons, there was, two years ago, only one who had survived this accident. Now although whether you amputate or not, this kind of accident is so often fatal, you must not leave the patient to his fate without effort to relieve him. You must amputate higher, or even at the hip-joint. The cases of success are very few, but you have to run the chance against almost certain death. We must not despair when the thigh is carried away at its upper third; we can amputate just below the lesser trochanter, or at the joint. If the operation save one out of twenty it is an important resource; without it probably not one would be saved. Some surgeons, in such cases, I mean those where the limb has not been carried away, recommend resection; in some cases it has succeeded in the humerus, but has been very painful and very fatal when applied to the femur. In injuries of the leg, excision of the head of the tibia, when the knee-joint was uninjured, has in a very few cases succeeded, and the thigh has been saved; but then it is not always easy directly after the accident to ascertain how far the joint has been injured: it is therefore prudent to establish, as a principle, that when a gun-shot wound is in the immediate vicinity of an articulation, it is more prudent to amputate above than at the joint, even if the latter operation be practicable. Some surgeons advise amputation in joints, and cases of success are mentioned, but they are not sufficiently numerous to justify me in advising you to have recourse to it. Instead of amputating when the limb was carried away, Bilguer made the wound as regular as possible with a knife, but this was more painful than amputation, and occupied more time.

We have so far been considering cases where the bone has been seriously injured, but amputation may also be necessary where the bone is intact: supposing a projectile to have carried away the whole mass of soft parts on the inside of the thigh—supposing a musket-ball to have carried away the great part of the calf of the leg, or similar parts of the arm, or forearm, implicating the principal vessels and nerves, although the bone be intact, the necessity for amputation will be urgent. If it be neglected, there will be gangrene of the parts beyond the wound; it will soon extend to superior parts, and the termination will, almost always, be the death of the individual. Still stronger would be the necessity if at the same time the bone were fractured. But even in those wounds Bilguer did not amputate; he placed a ligature around the vessel, and dressed the wound. In some cases the patient survived, but with a useless limb: what could be done with a leg wanting the gastrocnemius and soleus muscles? or with a thigh wanting the adductors, the extensors, or flexors?

We have now to speak of those wounds which implicate the larger vascular trunks. Supposing a ball to have penetrated and cut away the humeral artery and the accompanying veins, or the femoral artery and vein, or the popliteal artery and vein, the case is always very serious, often very perplexing. We know if there be aneurism at or near the popliteal space, we may apply a ligature upon the femoral artery, and the circulation in the inferior part of the limb will continue, and the limb may be as useful as before; it may therefore be asked, why amputate when the artery is wounded by a bullet. It is very true, if a surgeon be near a patient when he is so wounded, he may discover that the artery is wounded, though this is often very difficult, and may tie the artery above and below the wounded part. When a principal artery has been opened by a ball or other projectile, and the extent of injury does not indicate amputation, and we know where the artery is wounded, we

must not fear to enlarge the wound so as to be able to apply the ligature easily. You may say, why place two ligatures? Because it is generally necessary: one may stop the hæmorrhage, but secondary hæmorrhage oftenest occurs from the distal side of a wounded artery, and therefore it is necessary to secure it. An artery may be opened, and we may be unable to find the wound. A ball may penetrate the superior part of the thigh, the femoral may escape, the profunda may be wounded. The same reasoning may be applied to the arteries in the axilla. In these cases we may suspect the principal artery to be wounded, especially if there be much hæmorrhage; in such cases we must make an incision as if the principal artery were wounded; if it be not, we may possibly save the patient by placing a ligature around it, and may prevent a further loss of blood. But when the wound implicates at the same time the principal artery and vein, no good will be derived from the ligature. If we placed a ligature around both vessels, just below Poupart's ligament, the blood might arrive at the limb by collateral or anastomosing channels, but you have tied the vein which alone brings back the blood to the venous trunk of the pelvis; the leg is therefore gangrened by the accumulation of blood in its vessels. The obturator veins are insufficient to relieve the blood vessels so far as to prevent it. A wound of these two vessels is necessarily mortal unless amputation be performed very high up, or in the joint. When a large artery is tied, after some days it may give way under the ligature, and secondary hæmorrhage may come on; if it be possible to place a second ligature above the first, it should be done before we think of amputation; but if the wound be too high to allow of our placing a second ligature, we must amputate. After having tied the artery either immediately above and below the wounded point, or at a distance, a circumstance may supervene to indicate the necessity of amputation; this is, gangrene of the inferior part of the limb. Usually amputation should not be performed until the mortification is limited, or we may find the stump present the same character. Under any circumstance, when mortification succeeds to ligature, the success of amputation is very small; still, it is the only means which offers any chance of saving life.

I stated shortly that gun-shot wounds affecting large joints, especially those of the lower limbs, absolutely indicate amputation, and particularly those of the foot, the knee, and if there be much disturbance, those of the wrist and elbow. However small a bullet wound, if it affects the knee the necessity is urgent; less so under similar circumstances in the wrist and elbow. In the latter you endeavour to save the limb; there are many such cases saved with more or less complete anchylosis.

It is not only the gravity of a recent wound which ought to furnish the indication for amputation, but after accidents: two or three days will often pass without serious symptoms; but you must not deceive yourselves with the idea that if your patient has escaped primary accidents, he will therefore be cured. Secondary mischief will in many cases come, and require amputation.

In gun-shot wounds, when the first period has passed over, amputation is called for under the following circumstances: inflammation may become so violent that all attempts to prevent mortification are vain; but you must see how it is proceeding, because sometimes it is superficial, sometimes it is deep seated: in the first case sloughs may come away, and the case may do well. Mortification may therefore exist without calling for amputation, but when deep seated, all chance of preserving the limb is lost. Larrey believed that amputation should be performed as soon as mortification sets in; that we should not wait for it to be limited, because if we delay, the patient may be too weak to undergo the operation—it may have extended too far, or there may be purulent infection. Other surgeons differ from Larrey on this point, and decline to amputate until the mortification is limited. We hold, then, that when mortification affects not only the superficial but the deep tissues, the necessity for amputation is urgent; that when mortification is superficial, and not extending over a great surface, the operation may be dispensed with; but if the surface be extensive, the patient will most probably die from profuse suppuration succeeding to the throwing off the sloughs.

Again, on the third or fourth day, tetanus may supervene; it may occur at a much later period; it resists every treatment, becomes every hour more intense: in this case should we amputate? Larrey thought so, and believed he had succeeded in dissipating the disease by this means. The experience of other men has been very adverse, and the general opinion is, that it will prove a useless operation. Besides, in the very small number of cases where the disease has abated after amputation, are we justified in assuming that it was owing to the operation? I think not. Tetanus will occasionally, though rarely, yield to any treatment, or perhaps I might rather say, without any.

CLINICAL LECTURES

ON THE

EXAMINATION OF THE SICK,

AND THE PRINCIPAL SOURCES OF FALLACY ATTENDING PRACTICAL DIAGNOSIS,

Delivered at the St. Marylebone Infirmary, November, 1839,

By John Clendinning,
Senior Physician.

(Continued from page 718.)

Leading sources of fallacy in Diagnosis.—There are five classes of cases in which the practitioner is especially liable to err. One has already been cursorily alluded to, but must here again be noticed; viz. 1. That of feigned disease. 2. A second is that of concealed disease. 3. Another is that of masked disease, or insidious complications supervening on, or emerging during the course of, certain leading diseases, acute or chronic, and without characteristic symptoms. 4. The fourth class is what may be called mimic diseases, or morbid actions, that assume symptoms resembling those of diseases of a very different and often much graver nature; these also have been cursorily alluded to. 5. A fifth is imaginary diseases.

Feigned Disease.—And, first, of feigned diseases. These are met with in every department of practice, private as well as official, but especially in official practice, and in the public service. The unhappy condition of the soldiery, enlisted or enrolled usually for life, in some countries pressed into the service, in others entrapped into it, or driven by temporary difficulties of a private nature, without prospect of higher promotion, under ordinary circumstances, than the office of sergeant, &c. &c., these circumstances have given origin to a system of simulation of disease in the army, which is unparalleled for its extent, its variety, and its difficulty of correction: so that to a considerable extent the business of the military medical practitioner is not to cure or to relieve sickness, so much as to detect imposture. Thus deafness, lameness, incurable contractions of the limbs, rheumatism, &c. are feigned, as are also epilepsy, various forms of madness, and hæmoptysis, &c.; and ophthalmia, ulcers of the legs, &c. are excited, and perseveringly maintained, sometimes to the permanent injury or destruction of the part.

For like objects, viz. discharge from the service, or temporary release from duty, similar practices prevail in the naval service; and in every walk of civil practice nearly, where any selfish advantage could be gained by the imposture, chicanery of the same kind has been met with, and should be borne in mind as, in all unusual or suspicious cases, a possible occurrence.

Concealed Disease.—But in private business, the disorders and abuses of the sexual function and of the appetite for stimuli are those that lead most frequently to dangerous fraud or concealment. The following are the circumstances in which I have most frequently observed it, and which at the same time I consider the most important that the practitioner should be on his guard against. With respect to the male sex, the principal are, the concealment or denial of venereal infection, and of the practice of onanism; and in the female, concealment or denial of pregnancy; and in both sexes the secret abuse of opium and alcoholic stimuli. With respect to the former, it is well known that syphilis assumes many forms, imitating frequently some of the most common kinds of cutaneous disease, and occasionally simulating rheumatism, neuralgia, &c. Gonorrhœa also simulates rheumatism, and certain cutaneous disorders also; it has been held; and both syphilis and gonorrhœa are known to give rise to severe and often formidable inflammatory affections: ex. gr. of the bones, periosteum, testes, eyes, fauces, &c. Now the treatment of syphilis in all its forms is more or less peculiar, and the same holds of secondary gonorrhœa; and neither disease can be so well treated by the ordinary remedies employed in the diseases they simulate. A correct knowledge, therefore, of the true cause is in such cases very important, since it furnishes a key to the best treatment: but that true cause is just the information that the patient in many instances will be the least willing to communicate.

But if the sufferers by venereal infection are in some cases disposed to deceive or conceal, the victims of self-abuse, whether by masturbation or indulgence in narcotics, are, in almost every instance, unwilling to tell the truth. Perhaps there is not in the range of practical medicine a class of cases more difficult to diagnosticate correctly without the aid of the patient. It is, perhaps, not too much to say that the functional lesions produced by onanism more especially, are more various, complicated, and embarrassing, than even those that we trace to hysteria; whilst organic disease, and especially phthisis, is vastly a more frequent consequence of masturbation than of hysteria.

With respect to the female, the motives for concealment and denial, in a large number of cases, are obvious, and of the strongest kind, and the frequency of concealment and pertinacity of denial are

proportionally striking. In these cases, mistakes the most ludicrous in themselves, and often the most injurious to the practitioner, are on record. These errors have been of late more easily avoided, at least in the latter half of pregnancy, since the discovery of auscultation, but are still of no unfrequent occurrence. The position of the practitioner with respect to females in the unhappy predicament above referred to, is one of great difficulty. Most females know that suppression of the menses, morning sickness, &c. attend pregnancy: many diseases may cause enlargement of the abdomen, and nearly every other change of appearance that may attend pregnancy. The object of an examination of the hypogastric region, of the mammæ, &c. would suggest itself at once; so that what with wilful falsehood on the part of the female with respect to the menses, stomach, &c., and the unpleasantness of requiring any thing so suspicious as the examination of the mammæ, uterine region, &c.; and further, the ambiguity of almost every sign of pregnancy, except the physical, the liability to error with respect to diagnosis, and consequently with respect to treatment, in cases of the class under consideration, is of the strongest and at the same time, perhaps, of the most excusable kind.

Case.—Under such circumstances, instances such as the following have been repeatedly witnessed; viz. a young person of unsuspected conduct and good character complained of dropsical symptoms. She stated that the menses were regular, so likewise the digestion, but that swelling of the legs and abdomen had come on gradually, with some stupor and head-ache, and that no cause for the alleged disease could be assigned. She was not to be seen except with high dress, stays, &c. on, and succeeded in keeping her attendant in the dark for two or three weeks, after which her previous misconduct and then present condition were ascertained.

On the subjects of feigned or concealed disease, as sources of fallacy in private practice, this general observation may be made—that the cases most remarkable for ingenuity of deception and pertinacity are met with amongst females. Men usually deceive with some method, and for some intelligible purpose — not so females, in many cases; and from this circumstance female chicanery affording no clue, is more likely, for a time at least, to succeed without suspicion than that of a man. The variety and fantastical strangeness of the "égaremens du cœur et de l'esprit" met with amongst deceiving females is surprising. A great many striking examples are on record. Let me add the following to the number:—

Case.—The lady of a man of fortune complained of various ailments, and, amongst the rest, of the very formidable disease—suppression of urine. Various practitioners were consulted, but no cure was obtained. As a last resource travelling was tried; but nothing availed the patient. Still no urine appeared to be secreted, and her complaints of suffering continued, this domestic drama was persevered in for some years, during great part of which warm baths were used daily with the approbation of her advisers. At length suspicion was avowed, for it had previously existed of course,—(what physiologist would receive human testimony, if offered, to prove that suppression of urine without vicarious discharge, had been suffered for two or three years without any visible injury to health of importance?)—and a surgeon took an opportunity of examining the bladder by catheterism while the lady was preparing for the warm bath. The operation was managed dexterously, and the instrument furtively introduced before the subject became aware of the object of the manœuvre. The result was, that the bladder was found well supplied with healthy urine; and the conclusion was inevitable; viz. that under cover of the bath and by other means the lady had contrived to relieve nature daily during the whole period of her alleged suppressio urinæ, which was purely fictitious.

Insidious Complications.—Under the third head, that of insidious complications, are included many cases of much difficulty, and not a little danger, whether we regard the welfare of the sick or the reputation of the practitioner.

The principal instances I have met with, and that are of sufficiently frequent occurrence for distinct notice, are as follows:—

Febrile Diseases.—All febrile diseases involve a liability to complications, more especially of the inflammatory kind, to which liability is owing much of their danger and mortality. Every function and organ is susceptible in one degree or another of those complications. In most instances the symptoms of the supervening disease are sufficiently distinctly marked. There are some, however, in which the tendency to an insidious advance is much stronger, as daily experience shews, than in the majority. In fact, the complicating affections of the encephalon, and of the intestinal tube, (which, excluding thoracic affections, are the principal,) most commonly are marked by characteristic symptoms of easy detection. Those, therefore, are not amongst the complications to which it is my present object particularly to refer. But the complicating diseases of the chest differ much from those of the other cavities. 1.

In the first place, they are more frequent of occurrence than all the important extra-thoracic complications put together, and that probably many times over. 2. And, in the second place, they are more dangerous. The coincidence of pulmonic inflammations, membranous or parenchymatous, with fever, had been observed from the earliest times I believe. But Laennec, I think, was the first to discover and announce the law, that pulmonic complication, in the shape of slight bronchitis at least, is always to be expected in continued fevers and the exanthemata, and in other paroxysmal fevers during the exacerbations. In severe measles, in small-pox, in typhus, and other malignant fevers, accordingly, it occasionally and not rarely happens that life is more imperilled by pulmonary catarrh or bronchitis than by any thing else, and that to it may the fatal issue be, in a considerable number of cases, mainly referred. Pleuritis and pneumonia are likewise common complications of the same diseases; and complications which, in a majority of the cases of adults of constitutions rendered frail by intemperance, hardship, years, previous disease, or original malformation, prognosticate a fatal result. In addition to the pulmonic affections mentioned, pericarditis occasionally occurs; nearly exclusively, however, in subjects of morbus cordis.

Chronic Diseases.—Another set of insidious complications of much importance are those inflammations that are incidental to phthisis in all its stages; to morbus cordis and to acute rheumatism in adults; and certain cerebral affections, occurring in various pulmonic diseases in children most frequently, but also sometimes in adults. Phthisis at every stage is liable to the supervention of acute inflammations both membranous and parenchymatous of the lungs. Those inflammations it is important to detect in time. They are by no means so mischievous or formidable as the same morbid actions would be in sound lungs: for the pleurisy is generally of the adhesive kind, the tendency of which is conservative, as I have recently explained to you; viz., by preventing the compression of the lung and other evils arising from pleuritic effusions, and from the opening of a vomica into the pleura to form pneumo-thorax. The parenchymatous inflammation is indolent, and devoid, to a great extent, of the usual tendency to suppuration or gangrene. The acute bronchitis also is less urgent, though often very troublesome by dyspnœa, cough, &c. But their detection, nevertheless, is very important.

Perhaps of the three forms of complicating inflammation, the mucous or bronchitic is, on the whole, the most injurious by its disturbance of sleep, harassing agitation of the lungs in coughing, &c., but especially by its pertinacity; for it may be laid down as a rule, that in decided phthisis, with, or even without perceptible excavation, a congested and subinflammatory condition of the bronchial membranes is constantly present.

With respect to rheumatism, the complications referred to are acute inflammation of the interior or exterior lining membrane of the heart. Those are by no means of rare occurrence, more especially in articular rheumatism, and should always be borne in mind as contingencies in the treatment of the disease.

With respect to morbus cordis, it is, according to my experience, pre-eminently distinguished by liability to complication: to complications the most numerous, various, and unmanageable, that occur in practice as referable to any one disease, as their original cause. Many of these complications are of the insidious class, and therefore require notice here. They are acute and chronic. The principal acute forms are pulmonic inflammation and asthma, apoplexy, convulsion, and arachnitic symptoms; and the chronic forms are cephalæa, pseudo-phthisis, dyspnœa, hypochondriasis, enlargements of the liver, spleen, kidneys, &c., habitual catarrh, winter cough, &c. &c.

By the word "insidious," as applied to the preceding complications of morbus cordis, I mean not that they are themselves at all difficult of detection, but that they mask the heart disease with which they are connected, and which is the worst feature usually in the condition of their subjects, and tend, therefore, to blind the practitioner to what it is of the greatest importance that he should be aware of.

Respecting the diagnosis of masked morbus cordis, so frequent is the disease, and so various are the circumstances under which it is met with in practice, that it is matter of regret with me that it is impossible I should now enter into any detailed discussion of the subject. For the present, then, it must suffice to say, that at early ages, namely, under thirty, or even under forty, morbis cordis rarely occurs in an insidious form. When met with in young persons, it is usually an effect of obvious causes, as blows, falls, violent efforts, unequivocal hereditary tendency, rheumatism, &c., and includes, in a large proportion, and probably a majority of such cases, more or less valvular defect, which is easily recognized by the ear; but that towards the middle of life, and subsequently, it is of increasingly frequent occurrence, especially in males—being in all probability the most frequent and fatal, at advanced ages, of all organic diseases.

Rule of Practice.—From these considerations the duty of the practitioner is clear; viz., in all cases of grave disease, and especially of febrile disease, to explore the chest carefully, whether complained of or not, with a view to ascertain the condition of the heart and lungs. This duty is especially urgent in febrile diseases with respect to the heart, on account of the general importance of the heart to visceral action, life, and health, as the great instrument of supply; as also on account of the extra labour, and often exhausting efforts, to which it is stimulated in fevers and inflammations. Nor are those observations, though penned by a physician, and in illustration of internal diseases, by any means destitute of important bearings on surgical practice. The results of grave accidents and of various diseases commonly treated by surgeons in British practice, such as erysipelas, injuries of the head, burns, hernia, amputations, and other capital operations, &c., &c., must depend much on the previous organic health of the subjects, and on the supervention or absence of visceral complications during the treatment. Indeed, it seems obvious that the danger attending a visceral disease, whether old or recent, is all the greater for its coincidence with a serious external injury: also, that the treatment of surgical accidents complicated with visceral disease cannot be properly conducted without constant reference to such complication; that, in fact, the fracture, or other external mischief, must often be the secondary disease in importance; and that the observations above made, respecting the examination of patients as to all their functions and organs, must, to a great extent, apply equally to surgical as to medical practice.

Diseases of Children.—The complications of pulmonic disease alluded to as occurring more especially in children are coma and convulsions. These are common, as some of you have lately seen in this house, in the course of measles and pertussis, when complicated with pneumonia; and when they come on are likely to mask very completely the original disease, and to lead the practitioner to the conclusion that he has an arachnitic or other encephalic attack to deal with as principal disease, and thus give rise to very serious errors of omission with respect to the pectoral disease.

Emerging Complications.—But acute and supervening diseases are by no means the only, or even the worst kind of insidious dangers by which sufferers from acute attacks, with pyrexia, are beset. Fever, like other acute diseases, attacks persons debilitated by organic disease, or worn out by vice, hardship, &c., even more readily than it attacks sound and vigorous subjects. And the most fatal cases of fever are of this kind, owing apparently to this; that of grave chronic diseases, those of the chest are most numerous many times over, while the heart and lungs are the organs the adequate and incessant play of whose functions is the most immediately necessary to life. With respect to pulmonic diseases, the latest calculations have estimated the mortality by that class alone at more than a fifth of the whole deaths of civilized man; the waste of life by phthisis occurring principally between puberty and 30 or 35. I believe this to be much above the mark; but I am satisfied that the mortality for uncomplicated chronic diseases of the lungs alone is not less than a tithe of the whole mortality. Then with respect to the heart, the mortality attributable to the diseases of that organ, according to the best data with which I am acquainted, is slight, under 30, or even 40; but after 40 very considerably exceeds what is attributable to primary pulmonic disease. Owing, therefore, to the great frequency of pectoral disorders, we find a large proportion of the fevers, before 40, complicated with tubercular deposition; and a still larger proportion of the fevers occurring after 40, complicated with hypertrophy of the heart, and its usual attendant, emphysema pulmonum. The complication of fever with organic disease of the brain is comparatively infrequent, owing, I believe, to this; that the susceptibility of typhus, &c., is least when that of cerebral disease is greatest, viz., at advanced ages. Abdominal organic complications of fever also occur, but are comparatively unimportant.

Now, all those thoracic complications of fever, whether in origin posterior or anterior to the febrile attack, and whether organic or not, are, in a very large proportion of cases, so denuded of distinct symptoms, and, if manifested at all, are expressed by such slight sympathetic lesions of function, and such feeble reactions, as very readily to escape detection, without the exercise of much vigilance and considerable diagnostic tact by the practitioner. Indeed, I believe, in many instances, no means whatever but those brought to light by Avenbrugger and Laennec would be found competent to detect the complication; and I would lay it down as a general rule that it would be unwise to suffer any serious case of fever, of which we have charge, to proceed for any twenty-four consecutive hours of the first ten days or more, without a care-

fus examination of at least the lower lobes of the lungs. In children especially the liability to acute pulmonic complication is very great. One tedious infantile disease not essentially febrile at all is, when fatal, generally brought to a close by supervening pneumonia with or without convulsions, viz., hooping-cough. Of this, some of you have seen repeated instances recently in this house.

Inflammation, &c., of the lungs, then, is capable of being excited by many diseases. But pectoral diseases are not only frequent effects, but are also no uncommon causes of urgent disorders in other organs. I have very often seen phthisis, pneumonia, and pericarditis, accompanied by delirium, either low and muttering, or hot and violent; and in either case, such as to mask the real disease so effectually that, without the physical signs, a certain diagnosis were impracticable.

Case.—Of this there has been quite recently a striking proof in the male pulmonic ward. A young man was admitted under me, towards the end of the last month, in a state of delirium, and complaining, by various intelligible gestures and cries, of intense pain of the head, without coma or affection of the pupil, and making no other complaint, nor seeming to suffer at all otherwise. He was wasted, and had a slight cough without expectoration. I suspected at once the real nature of the case, and on tapping and manipulating the subclavian regions found dulness and depression of that region on both sides, the former greatest on the right. The restlessness of the patient prevented satisfactory auscultation, but the case needed no further light than that elicited by the fingers, for decisive diagnosis. The head symptoms seemed soon to amount to acute arachnitis; after 10 days or a fortnight he sank. The brain membranes were congested, and pure serum, amounting to above two ounces, existed in the ventricles. The convolutions were in the temporal regions moderately flattened. Those are appearances very common in phthisis without any head symptom whatsoever, as some of you well know. There was no pus, or lymph, or thickening, or other unequivocal evidence of inflammation in the head. In the lungs extensive mischief existed, including excavations in the apices; the larger, by much, on the left side, where the resonance had been less dull.

The closing scene of chronic bronchitis, morbus cordis, chronic diseases of the brain, &c. are all occasionally marked by a delirious excitement resembling that of arachnitis, and often of great intensity or else of considerable duration. Delirium indeed is an incident of the last stage of most fatal diseases, and respecting its occurrence under such circumstances, this general observation may be made: that during its continuance the sympathies and reactions commonly characterizing the disease upon which the delirium depends, are weakened and repressed, or even to all appearance wanting, so that commonly, without mechanical means, or chemical tests, or other physical agency, a precise and confident diagnosis is unattainable.

Suppression of Urine.—A circumstance occurring sufficiently often in delirious and comatose cases to be important, though not strikingly a complication, may be shortly noticed here; I mean the suppression of urine frequently met with in such diseases. This is a morbid condition very important to detect in time, and for this purpose it is best to examine with the hand the hypogastric region. The propriety of a personal examination appears from this, that after the bladder has once become distended it is common for the urine to escape by a continued stillicidium that imposes on the attendants. I have in several such instances been assured by the nurse that ample evacuations had taken place, and yet have found, on examination of the pubic region, that tumidity and tenderness usually indicating a distended bladder, and have had pints of fluid withdrawn by the catheter.

Pleuritic Effusion.—It may not be improper here shortly to notice another insidious complication, or indeed, more correctly, consequence, of pulmonary attacks, which it is very important not to overlook, and which not unfrequently remains too long undetected; I mean the dropsical condition of one side most commonly, but sometimes of both pleural sacs, and which is often met with in connexion with inflammation of the pleura, whether the pleuritis be accompanied by other mischief or not. Of this affection, under the name of pleuritic effusion, you have seen several examples recently in this house. It is of considerable importance to the sick, and of still greater importance in many cases to the practitioner, that this complication should not escape observation. And for this purpose it is necessary to bear in mind the facility with which, on hasty examination, it may be mistaken for consolidation of the lower lobe by phthisis, or by pneumonia, a mistake into which at first I have myself several times fallen in this disease, owing to haste and neglect of deliberateness of method in examining the patients.

[To be continued.]

TEST FOR UREA IN ANIMAL FLUIDS.

To the Editor of the Medical Gazette.

SIR,

IF the enclosed is adapted to the pages of your journal I should feel obliged by its insertion.—I am, sir,

Your obedient servant,

GEORGE BUSK.

H. S. Dreadnought,
Jan. 27, 1840.

The property possessed by urea of altering the forms of the crystals of certain salts, as of common salt, and hydrochlorate of ammonia, has been long well known, but I am not aware that this property has been much employed as a means of detecting the presence of urea in animal fluids.

By an extract from Müller's Archives, given in the MEDICAL GAZETTE for June 22, 1839, it would however appear that Dr. Marchant had made use of this fact, and had by it ascertained the presence of urea in the healthy blood of the cow; and he states that the delicacy of the test is such, that he was able to discover one-tenth to one-twentieth of urea in from 100 to 150 parts of water.

Some time previously to that date I had made use of the same test, but applied in a different manner from that employed by Dr. Marchant, and had by its means frequently demonstrated the presence of urea in the blood and secretions of persons affected with granular disease of the kidney, and had also convinced myself by it of the presence of urea in healthy human blood.

My attention having recently been again directed to the subject, I feel justified, by the apparently certain results of numerous experiments, in drawing the notice of those engaged in the pursuit of animal chemistry, to the matter, believing they will find, in the method I am about to describe, a delicate and easily applied test of the presence of urea in animal fluids.

This method consists essentially in the examination, with a lens, of the crystallization of such portions of the suspected fluid dried on pieces of glass, and it is founded on the following facts:—

1. If a drop of a solution of pure common salt be placed on a piece of glass, and dried moderately quickly over the blaze of a candle, the salt will crystallize in the form of a ring, in the area of which numerous cubic crystals will be found, and others of irregular shape.

2. If to the same solution of common salt some pure urea be added, in a proportion of not less than one-twentieth of the salt, and a drop of this solution be dried in a similar manner, few or no cubes will be found in the ring, but instead of that of cubes, the crystals will assume the form either of crosses or of six-rayed stars; the assumption of the one or other form, and the total absence of cubes, depending on the relative proportion of urea and salt.

3. No other substance than urea, so far as I know, has the power of altering the form of the crystals of common salt in a similar manner. With respect to these facts it may be observed—

1st, That various impurities, and also very rapid crystallization from weak solutions, will produce numerous irregular forms of crystals, where urea is not present, but one only of these forms can be confounded with those produced by that principle; this is the cruciform crystal: but it will be noted that the cruciform crystals produced by urea are distinguishable from those occurring under other circumstances, by the lines forming the cross in the former being at right angles to each other.

2nd, The effect of urea on the crystallization differs according to the relative proportion of the urea and salt. For instance, if the urea be in any quantity greater than one-third of the salt, nearly the whole crystallization will assume the form of rectangular crosses, formed by the decussation of two tetrahedral needles, one of which is usually much longer than the other; with urea, in the proportion of one-fourth to one-sixth of the salt, many of the crosses will assume a pectinate appearance, from the presence of minute needles attached at right angles to the longer arms of the cross; and among the crosses there will be observed a few crystals of a stellate form, the star having six rays. When the urea is in the proportion of from one-seventh to one-ninth of the salt, the stellate crystals will become more and more numerous; and from one-tenth to one-twentieth of urea will cause nearly the whole of the crystallization to assume this form; but in the lower of these proportions many cubes will be present, which, when the urea does not equal one-twentieth of the salt, will predomi-

nate, but when it does not equal even one-thirtieth, many of the cubes will still present an imperfect division into six portions; there will also be many cruciform crystals, the lines forming the cross in which, will, however, not be at right angles.

The above is intended to describe merely the general character of the crystallization with urea in different proportions, but much of the difference depends also on the strength of the solution of salt employed, and, also, in some degree, upon the mode in which the drying is effected; and it should be noted, that when the urea is in very small proportion, and the solution strong, the latter should be diluted, or spread thinly over the glass; as, otherwise, the greater part of the salt will crystallize in cubes.

3. The presence of albuminous, or fatty matters, or other foreign substances, in considerable quantity, interferes so much with the crystallization, and, consequently, renders the indication to be derived from it so obscure, as to make their separation necessary, but their complete removal is not requisite.

The following is a convenient mode of applying this test to the analyzation of animal fluids:—

Take any quantity of the fluid, such as blood, serum, or effused fluid of any kind; mix it with about twice its quantity of alcohol; agitate well for a few minutes, and filter. Evaporate the clear fluid over an open steam-bath down to about one-third of the original quantity; allow it to cool, and filter through a wet filter; dry a drop of the fluid on glass; if much fatty matter is present, agitate some of the fluid in a tube with pure æther; decant the other, and dry another drop, and examine the crystallization.

If, on drying, the quantity of saline matter appears very small, evaporate the fluid still farther, until it is sufficiently concentrated to afford distinct crystals, under a moderately high magnifying power (from a quarter to the eighth of an inch).

There is generally sufficient common salt in all animal fluids to afford distinct crystals: and in healthy blood, or blood where urea is not present in unusual quantity, numerous six-rayed stars will be seen; but in blood, or secretions of those affected with granular kidney, or in blood to which urine or urea have been added for experiment, the salt will crystallize in deliquescent rectangular crosses: if this should be the case, the addition of a saturated solution of common salt, drop by drop, to the fluid, until the stellate form of crystal is evident, will afford satisfactory proof of the presence of urea. In doubtful cases, many trials of the fluid, variously diluted, should be made, and every part of the crystallized ring should be examined; as in instances where the quantity of urea is very small, the greater part of the salt will crystallize in its proper form; but yet, here and there, a characteristic stellate crystal will be observable.

By means of this test, one grain of urea in 8 to 10 ounces of water, may be readily detected.

CHRONIC CROUP.

To the Editor of the Medical Gazette.

Sir,

I have been induced to draw up an account of a singular case of chronic croup, which lately came under my notice, and have prefixed some remarks on the subject generally. I shall feel flattered if you deem the communication interesting enough to occupy a place in your valuable journal,—I am, sir,

Your obedient servant,

Thos. Henry Starr, M.D.E.

Daventry, Northamptonshire,
Jan. 20, 1840.

I believe it has been universally admitted by medical observers that the mucous lining of the air-passages rarely becomes affected after the early period of childhood with that kind of morbid action which generates the singular material that has been aptly denominated false membrane; whilst on the other hand, the latter production not unfrequently attends inflammation of those surfaces at the outset of life, and, in short, constitutes the pathognomonic feature of croup.

Various suppositions have been advanced, with a view to explain the general limitation of this liability; but I think the most feasible hypothesis is that which traces the remote source of the pathological condition before us to a greater relative vascularity of the mucous tissues in the young subject, combined with a readily excitable, nay, al-

most feverish activity, of the circulation ; and, perhaps above all other circumstances, to the existence of a larger proportion of albumen in the blood. These multiplied considerations afford adequate data for the peculiar nature of the complaint, whilst the frequency of its occurrence may depend upon individual susceptibility to morbid impressions, from certain states of the atmosphere. The concrete substance characteristic of croup has been described by some writers as consisting entirely of fibrine, whereas we have the high testimony of Andral to show that albumen forms its principal ingredient. He tells us that Schwilgué ascertained by direct experiment that these morbid formations consist of albumen, united to a certain portion of carbonate of soda and phosphate of lime. M. Bretonneau, well known for his curious researches both in croup and diptherite, an analogous affection of the fauces, œsophagus, stomach, &c. says, " that the membranous excretion contains some fibrine." I presume the latter result may happen to a greater extent in the more advanced years of childhood, during adolescence, or after puberty, inasmuch as fibrine begins then to abound in the animal economy. In fine, the albumen or fibrine may probably be found to predominate as constituents of the false membrane, according to the age of the patient.

With regard to the classification of croup, there certainly has existed much confusion amongst nosologists ; and in support of the accusation, I need only refer to the original edition of Dr. Mason Good's Study of Medicine, where the disease was arranged under the head of bronchitis. In subsequent editions of the publication referred to, the word 'bronchleminitis' was employed, as being better calculated to express the peculiar effects of the croupal action; at the same time, it leaves the simpler term 'bronchitis' to denote the common catarrhal inflammation; a sense in which it has been used by Dr. C. B. Williams, and several other eminent authors. Dr. Good divides croup into two varieties, viz., an acute and chronic; his definition of the latter expressly states the bronchial lining to be the especial seat of the malady.

It cannot be a matter of much surprise that the acute croup of children seldom or never extends its ravages into the remote air-tubes and cells, if we only consider how rapidly the disease comes to an issue. The attack commencing, for instance, in the trachea, and larger bronchi, would have a tendency to affect the whole course of the pulmonary mucous membrane; the urgency of the symptoms obviates, as it were, this spreading of the disease : either active depletion, with a prompt exhibition of remedies, at once checks its progress, or the patient dies from suffocation before it has time to proceed far beyond the point of its origin. I have been led to offer the previous remarks, owing to a want of agreement in opinion amongst some physicians as to the propriety of regarding as a true croupal affection that pathological state of the pulmonary bronchi which gives rise to a coating and subsequent disengagement of false membrane; but which, at the same time, evinces a chronic character.

It is fair to argue, that, as in other inflammatory disorders, we find a higher or lower degree of action, and specify them as acute or chronic accordingly ; so the disease of which I treat is, doubtless, subject to a like variation as to its intensity ; moreover, as the trachea and bronchi intimately resemble each other in the minute anatomy of their structure, form a continuity of parts in the same organ, and administer directly and conjointly to the function of respiration, it is reasonable to conclude that either may become the seat of croupal action.

With regard to the essential sign of the disease, Laennec says, " we cannot attribute the plasticity of the pus (coagulable lymph) in croup, the distinctive feature between it and catarrh, to a higher degree of inflammation simply ;" and in a following page the same author observes, " sometimes the disease is confined to the bronchi and their branches, there being no trace of it in the larynx and trachea."

The bronchleminitis chronica, of Good, presents itself but seldom, and the latter systematic writer appears to be the only one who clearly recognizes its occurrence, and gives it a separate place in his nosology ; indeed, he does so on the authority of Dr. Warren, for after quoting several of the older writers, he concludes thus : " the complaint does not seem to have been distinctly described, till Dr. Warren's history of it." The case upon which this history rests

was published in the Medical Transactions. The individual in whom the symptoms appeared was a young lady nine years of age; false membrane was expelled by coughing at different intervals, during the course of a twelvemonth, and its cessation at the close of that period was attended with the formation of an abscess in the right heel. The remedies which Dr. Warren employed proved confessedly unsuccessful: they consisted of bleeding, purgatives, and squills.

The pathological phenomena which the following case exhibited seemed to me so interesting and unusual, that I have made personal inquiry of several medical friends, engaged in extensive practice, as to whether they had ever met with a similar ailment. They admitted, however, such symptoms were new to their experience.

On the 9th of August last, Harriet Burdett, æt. 22, consulted me under the following circumstances:—Her general appearance was that of a well-grown young woman. I was struck, in the first instance, with the peculiar hoarseness of her voice, which sunk at times into a whisper; but this defect, although lately much increased, she described as habitual. She complained of pain in the anterior and inferior parts of the chest, on both sides, together with a general sense of oppression throughout the lungs. These symptoms showed themselves about ten days before she applied for my advice, and were accompanied with a cough, the paroxysms of which found temporary relief from the expulsion of a quantity of membrane from the sputa, very similar in its consistence and colour to boiled macaroni. This abnormal production accurately represented the ramifications of the bronchi, and had evidently been moulded to their mucous linings. The specimen that now lies before me preserves the tubular character, and in fact displays a likeness of the air-tubes, from those of the largest to those with the smallest diameter. The surface of the sputa that lay in contact with the bronchi was here and there tinged with blood. Upon exploring the chest with the stethoscope I could detect no other physical sign of disease than a greater indistinctness than natural in the respiratory murmur. The pulse was rather small and compressible, it did not exceed 80; there was, however, a well-marked occasional intermission. The catamenia had for some time occurred at short and irregular periods. The digestive functions, properly so called, were scarcely at all impaired.

In commencing the treatment, my object was to assist expectoration, determine to the skin, and at the same time allay irritation. With this view I prescribed the following medicines:—

℞ Antimonii Potassio-Tart. gr. vi.; Misturæ Camphoræ, ʒviij.; Tincturæ Scillæ, ʒij; Acidi Hydrocianici diluti, ♏xvj. M. fiat mistura e quâ capiat cochlearia duo ampla quartis horis; et

℞ Pulveris Ipecacuanhæ comp. gr. v.; Pulv. Jacobi veri, gr. iij.; Hydrargyri protochlor. gr. i. M. fiat pulvis horâ somni sumendus; et Admov. Emplastrum Lyttæ parti inferiori pectoris.

August 10.—The first dose of the mixture caused some sickness; the same effect did not follow its repetition. The bowels had been acted on, and the skin perspired freely during the night. The blister produced a vesication. The cough and expectoration were, nevertheless, unaltered.

Repr. mistura per diem; et pulvis horâ somni.

August 12.—A nausea has been maintained up to this date; still, a successive formation and detachment of false membrane has gone on without perceptible abatement. As the pulse evinced a subdued state of arterial action, I desired my patient to omit the previous remedies, and prescribed in their stead a combination of stimulating expectorants, viz.

℞ Assafœtidæ G. R.—Myrrhæ G. R.; Scillæ exsiccatæ—Pilulæ Conii co. aa. ʒss. M. ft. massa in pilulas xxx. dividenda e quibus capiat. ij. ter die.

These pills were persisted in until August 15, and seemed to be of some advantage in facilitating the separation of the sputa, although they had not effected a diminution of its quantity. I desired the pills to be repeated, and a portion of tartar emetic ointment to be rubbed over the sternum, night and morning.

August 18.—A plentiful crop of pustules appeared after the third or fourth application of the ointment, and yet no decisive change was perceptible in the symptoms of the case. I therefore resolved to adopt a modification of the mercurial plan of treatment at one time

so earnestly recommended by Dr James Hamilton, in bronchleminitis acuta.

℞ Hydrargyri Protochloridi; Pulveris Antimonialis; Pilulæ Conii Comp. aa. gr. ij. ft. pilula ter die sumenda.

August 22.—The cough and expectoration were now clearly on the decline, and in order to promote the constitutional effect of the calomel as soon as possible, I had recourse to a small bleeding.

Fiat venæsectio ut fluant sanguinis ℥viij.; Rep. pilulæ.

August 23.—The gums were slightly affected, and the patient was sensible of a great improvement in her complaint, together with a decrease in the cough and sputa; the pulse had lost its intermittent character.

Rep. pilulæ.

August 24.—The soreness of the mouth had increased, but this inconvenience was now amply repaid by a total departure of the other disagreeable symptoms, with the exception of a certain degree of hoarseness of the voice, which, as I before noticed, was habitual, and not immediately arising from the disease. The bowels were confined, and there was some general debility.

℞ Magnesiæ Sulphatis, ℥iiss.; Quininæ Sulphatis, gr. vi.; Misturæ Camphoræ, ℥viij.; Acidi Sulphurici diluti, ℥j.; Tr. Camph. C. ℥iij. M. ft. mistura e quâ capiat partem sextam bis die; Omittantur alia medicamenta.

August 26.—My patient was rapidly recovering her strength. The appetite was good, and all soreness of the mouth and gums had subsided. The bowels were freely open, the pulse remained steady, and there had been no recurrence of the cough, &c.

Sept. 10.—Since the last date the convalescence had suffered no interruption; I therefore permitted this person to return home, a distance of eight miles from hence. She came to see me again in November, and, having experienced no relapse, I considered the cure complete.

There was one circumstance in the history of this young woman which I consider not unworthy of attention. It appears that when two years of age she was allowed to fall asleep upon some new bread, and she lay in that situation for some time. Her mother tells me she was shortly afterwards seized with a 'violent cold', and her voice never afterwards acquired a healthy intonation.

CASE OF SPONTANEOUS

EXTRUSION OF A VESICAL CALCULUS PER VAGINAM.

By R. Roberts, Esq.

Surgeon to the Lying-In Institution, Chester.

[*For the London Medical Gazette.*]

At a late hour of the night of October 2nd, 1839, my advice was requested in behalf of a poor woman, residing in Frodsham street, in this city, who was represented to me as having been for some time past in a hopeless condition from a cancerous affection of the womb. It was likewise represented, that within the last few days a substance had presented itself at the orifice of the vagina, which was then occasioning the most excruciating pain, and for the relief of which my aid was solicited. Pressed by another engagement, I was unable just at that time to see her, but I prescribed forty drops of laudanum, and ordered that fomentations of hot water should be assiduously applied to the vulva for some time. On the following morning I visited her at an early hour, and was informed that the "substance" had been expelled during the night, and that the patient was then comparatively free from suffering. The "substance," whose exit had most likely been hastened by the relaxation occasioned by the use of the warm fomentations, proved to be a urinary calculus, of an egg-shaped form, weighing two ounces and six drachms, and measuring six inches and a quarter in its largest circumference, and six inches in its smallest. Subjoined is a brief history of the case.

J. J., a miserably emaciated maiden of 56, who has been afflicted from infancy with considerable spinal and pelvic distortion, and who appears to be possessed of much intelligence and fortitude of mind, states, that she began to experience a difficulty in evacuating the contents of the bladder about six years ago, and that when she attempted, by straining, to produce this effect more fully, she experienced a sensation as if some heavy weight became at the same time protruded into the urethra, and obstructed its flow. She likewise states, that at the expiration of two years from

the commencement of her illness, and four years since, her urine ceased entirely to escape by the natural channel, but that at the same time it suddenly began to flow involuntarily and freely, per vaginam, from which passage it has been exclusively voided, mixed with a quantity of muco-purulent matter of an offensive nature, from that period to the present time; altogether nearly four years. Her suffering during this long interval of time has been intense; the pain has occurred in paroxysms, and has resembled very much, so far as she is able to judge, those of labour. For the palliation of this, a mixture of laudanum and tincture of columba has been her only resource; of the former medicine she has been, for upwards of twelve months, in the habit of taking no less than two tea-spoonfuls three times a day. From this history it would appear, that the calculus must have been lodged either at the neck of the bladder, or upper portion of the urethra, for about four years before an opening into the vagina, of a size sufficient to permit of its escape, was effected, for we can scarcely credit that had it once fairly got into the vagina, its exit would have been so long detained, notwithstanding that the subject of the case was unmarried, and had never borne children. Nevertheless, it is not to be denied but that a degree of thickening and agglutination of the vagina and surrounding parts would most likely accompany the ulcerative process, sufficient to obviate a quick exit—even supposing that she had borne children. For nine months previous to its ultimate dislodgement it had been visible to the female attendant, who describes it as having been covered with a "thin whitish kind of skin" (could this have been the hymen?) during all that time; the attendant, however, took it to be the "incurable cancer of the womb" under which her poor friend had been declared as suffering.

The poor woman is now completely relieved from the torturing pains she so long endured, and consequently has discontinued her accustomed large doses of laudanum: the purulent discharge has also almost subsided, and her general health is much improved. Nevertheless, the urine being wholly voided by the vagina, she complains of a distressing soreness and tumefaction in the parts; and unfortunately the introduction of a catheter into the urethra is as yet impracticable to a greater extent than an inch, so that any prospect of relief in this respect must be tedious, if not uncertain. I think there can be no doubt but that occlusion of the urethra has followed, and most likely this is dependent on a part of it having been destroyed by the ulceration which gave vent to the calculus. Before, therefore, any attempt can be made to heal up the urinary fistula, which has lately much contracted, an attempt must be made to restore the urethra. Probably the best way to effect this would be to introduce a trocar and canula of a suitable size into the urethra, and to carry it onwards in the direction of the bladder, and after perforating the viscus, in the accomplishing of which there could scarcely be much difficulty, provided that the sharp point of the trocar was withdrawn within the canula, during the introduction of the latter along the sound urethra, to remove the instrument, and direct her to wear for some time either a common silver catheter, or, what might answer better, a male one made of elastic gum.

At the request of my brother-in-law, Mr. Calder, assistant-surgeon to the second regiment of Life Guards, I have presented the calculus to the museum of the medical department of the army at Chatham, a request which I had the more pleasure in complying with, from having been given to understand that that excellent collection is not confined to the exclusive use of the department, but is open to the inspection of the whole profession.

Abbey Street, Chester, 10th Jan. 1840.

PRACTICAL OBSERVATIONS.

ON

THE PORRIGO SCUTULATA, OR RINGWORM OF THE SCALP.

To the Editor of the Medical Gazette.

Sir,

If the following practical remarks on the porrigo scutulata be thought worthy a place in your valuable periodical, you will much oblige me by their insertion.

I am, sir,

Your obedient servant,

C. M. Durrant, M.D.

Hazleden, near Cranbrook,
Jan. 29, 1840.

This very troublesome and unmanageable disease, seldom appearing before the age of three years, occurs usually in children, and persons of a scrofulous habit, especially if the latter be combined with insufficiency of food and clothing. Its origin is occasionally spontaneous; nevertheless in nine cases out of ten it is propagated by contagion, or rather by direct contact.

It commences, in the first instance, by distinct red patches, having more or less of a circular form, and accompanied by troublesome itching, in relieving which the disease is often transferred by the nails to more distant parts.

Ringworm is essentially contagious, and has for its seat the hairy scalp, extending sometimes to the forehead and neck. The hair covering the spots is in general dry, pale-coloured, thin and woolly, often breaking off short. It may be easily removed, when the bulbs will be found affected from the very commencement of the disease, thus demonstrating the probability of its seat resting in the bulbs themselves, and the parts generating the hair.

Sooner or later complete alopecia results. Upon the surface of the patches is shortly perceived an aggregation of small yellow pustules, more numerous towards the circumference than the centre, and presenting, as in porrigo favosa, a central depression; each pustule, if examined attentively at the commencement of the disease, will be seen traversed by a hair.

The pustules shortly break, and are succeeded by thin crusts, which, increasing in thickness, become gradually more prominent, coalesce, and if not checked, form incrustations of greater or less magnitude. These incrustations, on examination, present at the border the characteristic circular line.

The scabs or crusts are thinnest towards the centre of the patch, where they drop first, either spontaneously, or as a consequence of the use of remedies, when we find the subjacent skin red and glistening. On this appear in a few days fresh pustules, more extended than before, and generally seated towards the circumference of the patch, while the centre remains red and scurfy. The new pustules in their turn quickly develop fresh crusts.

If the disease prove obstinate, and be not checked, the pustules gradually extend, coalesce, form thicker and thicker crusts, until at last the entire head appears encased with incrustation; the circumference of which presenting distinct portions of a circle, indicates traces of the primitive form of the eruption. In most instances, however, if the disease be not quite recent, its different stages are exhibited at the same period. Thus we perceive at one point, patches, red, bare, and shining; others with a circle of yellow pustules, having inflamed margins, while on other spots the pustules will be seen already converted into crusts of various thickness. The remaining apparently healthy portions of the scalp often present a slight cutaneous exfoliation.

Porrigo scutulata has been sometimes confounded with porrigo favosa; the distinguishing characters of each species are, however, sufficiently distinct to prevent an error in the diagnosis.

In porrigo scutulata, the pustules are agglomerated, forming, by their union, distinct circles. In porrigo favosa, the pustules never unite in a regular form.

In porrigo scutulata, the incrustations always retain at the circumference a more or less circular arrangement. In porrigo favosa, we have the characteristic, cup-like depression, readily distinguishing the latter disease.

Porrigo scutulata has been occasionally confounded with impetigo figurata, especially if the latter disease be seated on the scalp, or if the former appear on the extremities. By attending to the following characters, these diseases may be readily distinguished, whether in the stage of pustule or that of incrustation.

In porrigo scutulata, the pustules are deep seated, having slight inflammatory bases, and forming crusts almost at their commencement. In impetigo figurata, on the other hand, the pustules are superficial, slightly prominent, seated on a very inflamed surface, and do not form a true crust for some days.

In porrigo scutulata, new crusts are formed only by the appearance of new pustules. In impetigo figurata, new crusts are formed by a sero-purulent discharge.

The crusts in impetigo figurata are thicker, especially towards the centre of the patch. In porrigo scutulata, on the contrary, they are thicker at the circumference.

Lastly, impetigo figurata seldom oc-

curs in children, is not contagious, and when seated on the scalp never causes a separation of the hair.

The other cutaneous affections are sufficiently well marked to prevent their being confounded with the one under consideration.

This disease is not dangerous in itself, but often becomes exceedingly troublesome and annoying by its obstinacy. In the treatment of this inveterate affection, we too often are compelled to witness the inefficacy of the numerous remedies that have been from time to time proposed; and in no disease do we require to ring the changes so frequently, and so often to little purpose, as in the present. Writers on this disease have very properly, but, I think, too exclusively, confined their attention to the almost sole use of local applications, without sufficiently uniting with them the employment of constitutional remedies.

In the early part, then, of the treatment, I would strongly urge the necessity and advantage of combining, in all cases, constitutional treatment with local applications. Admitting, even, the general health be not obviously deranged, yet, in most cases, the local disease will be found much benefitted, and often surprisingly and rapidly changed in its character, by the combined exhibition of general with topical remedies.

In the treatment of ringworm, the greatest cleanliness must be strictly enjoined: the hair must be kept very closely cut, which, if the patches be inflamed and irritable, is preferable to shaving. The surface should be frequently and regularly washed with some emollient decoction, (none better than thin gruel,) alternating this with soap and water. At the commencement of the treatment, the more stimulating applications must not be used, as they tend only, at first, to aggravate the disease.

The following constitutional remedies, in the early stages, will be found most useful adjuncts:—

A combination of soda, rhubarb, and hydrarg. c. cretâ; liquor potassæ alone, or better with a light tonic. Iodide of potassium is often extremely beneficial, especially in conjunction with the external use of the preparations of iodine.

Decoctum cinchonæ; magnesia with lime-water; vinum ferri; tinct. ferri sesquichloridi, &c.; these, with other tonic and chalybeate medicines, will be found of signal service as adjuvants to the local treatment. Together with these, if the patient be of a scrofulous habit, his clothing, diet, and exercise, must be carefully regulated.

Before enumerating the most serviceable among the local applications, I must urge the use of baths, the frequent repetition of which will be found of the highest importance, and often effect a cure when all our other remedies have been tried in vain. The warm or vapour bath, or what is of especial benefit, if it can be had, the sulphur vapour bath, or in lieu of which, though less serviceable, yet always to be procured, is the sulphuret of potassium, in the proportions of ʒiv. to ʒvj. to a bath, in which the patient should remain from ten to twenty minutes. If the disease be seated on the trunk or extremities, the quantity of the sulphuret may be advantageously increased. At first our local applications must be of the mildest nature. After repeatedly washing or poulticing the affected parts, we may apply either the ung. hydrarg. nitrat. or the ung. hydrarg. nit. oxyd. much diluted; should these fail, we must gradually advance to the more stimulating, viz.: solutions of the bicarbonate of soda or potassa, or even chloride of sodium; solutions also of zinc, copper, nitrate of silver, bichloride of mercury, &c. Nitric or hydrochloric acid, in the proportion of ʒj. to Oj. of water, act sometimes beneficially. Sulphuret of potassium in solution, or as an ointment, very frequently cures the disease: thus,

℞ Sulphureti Potassii, ʒj.—ʒij; Axungiæ, ʒj.; tere bene simul. ut fiat unguentum, nocte maneque applicend.

Tinct. ferri sesqui-chloridi frequently applied to the patches is often useful.

Proto-chloride of mercury in form of ointment or black wash.

The following formulæ have proved well worthy of trial:

℞ Bismuthi Trisnitratis; Sulphuris, aa. ʒij.; Opii. in pulvere. gr. x.; Axungiæ. ʒij.; tere bene simul.

℞ Creosoti, ʒj.; Axungiæ, ʒj. M.

These ointments should be applied night and morning, the parts having been previously well washed.

In very obstinate cases, the compounds of iodine have benefited the disease, especially those with mercury, zinc, and sulphur; the latter is warmly advocated by M. Biett, in the following formula:

℞ Iodureti Sulphuris, ℈j.—ʒss.; Axungiæ, ʒj.; tere bene simul.

Blisters, tinct. lyttæ, and the concentrated acids, have occasionally proved serviceable, in removing the morbid cuticle; the use of the latter, however, should be immediately followed by the application of cold water.

Great caution is required in the employment of these stimulating remedies, the strength of which should never be greater than the part can bear.

The more complete success following the treatment of this disease in hospitals than in private practice, must be attributed to the greater facility and regularity in the employment of the remedies prescribed, and often may be traced to the more frequent use of baths.

ON THE

POST-MORTEM APPEARANCES FOUND AFTER BURNS.

By James Long, Esq., Liverpool.*

(*For the Medical Gazette.*)

My object in the following paper is to draw attention to the post-mortem appearances found after burns. It is scarcely necessary to observe that this is not a new subject, having been treated of so early as the year 1823, by Dr. Cumin, of Glasgow, and more recently by Dupuytren, in his Leçons Orales: besides the cases and observations of these individuals, there are cases scattered here and there through the different periodicals; these, with some furnished by Mr. Arnott, of the Northern Hospital, and a few that have fallen under my own notice, will, with some observations and directions, form the subject of the present communication.

Post-mortem appearances after burns, as Dr. Cumin remarks, are important, inasmuch as they explain the frequent fatality of burns, and perhaps open interesting views respecting the action of powerful external stimulants upon the cutaneous surface. They seem to me to have an additional importance; that of showing with what rapidity congestion may be succeeded by inflammation, and how quickly that state may run through its stages of adhesion, suppuration, ulceration, and mortification.

Before proceeding to detail cases, I may be allowed to premise the following observations:—

1. The effects of caloric applied to the human body are either simple inflammatory irritation, of itself tending to resolution, or an inflammation which must necessarily terminate in suppuration; or lastly, the complete destruction of the part to which it is applied. 2. That each burn, according to its extent, depth, or constitutional peculiarities of the patient, may have an effect purely local, or determine general accidents, which may compromise more or less the life of the individual. 3. If the burn or scald produce only an erythematous redness of the skin, but be extensive, the nervous and vascular systems are affected, and the pain is great; but if the epidermis be removed, and the papillary surface underneath be exposed, the pain is much greater, and the nervous and vascular systems proportionally affected. 4th. That if this papillary surface (or nervous vascular surface) be destroyed, the pain is very great, and continues longer than in the preceding instances, because the patient has not only to undergo the pain produced by irritation and inflammation, but also that of the elimination of the dead surface. 5. But if disorganization of the whole skin has taken place, the pain lasts only while the cause acts, and the nervous and vascular systems are less affected; but inflammation coming on in four or five days for the purpose of separating the dead skin, the pain then becomes severe, and the nervous and vascular systems are affected in proportion to the depth of the tissues destroyed; so is the time required for their separation, and in the same proportion is the constitution, called upon to repair the breach which has taken place.

In an extensive burn or scald, affecting only the superficies of the dermis, then the pain and constitutional irritation are coincident with the local affections. In the deeper class of burns these are secondary, at least if this species of burn has existed alone; but it unfortunately almost

* Read before the Liverpool Medical Association.

invariably happens that deep burns are surrounded by all the preceding degrees, so that the patient is not only liable to the constitutional exhaustion incident to the separation of the destroyed tissues, but also to the nervous and vascular irritation attendant upon the more superficial burns. The immediate acute pain produced by a scald or burn may of itself produce death, without any morbid appearance of the internal viscera being discovered, and as Dupuytren remarks, "loss of vitality may destroy life, as well as loss of blood." Illustrative of this position I have seen at least two instances, not however produced by burns. In almost every case we have appearances, which, without supposing loss of vitality, are quite sufficient to account for death. These appearances are, congestion of the viscera, and effusion into one or more of the three great cavities; it seems as if the blood had been driven from the surface of the body, and taken refuge in the internal organs, and in many instances it effects its escape from their free surfaces, thus presenting the same appearances as are found in those who die in the first stage of cholera; we shall find, however, the morbid appearances are neither uniform in extent nor locality, a circumstance explicable by the extent and perhaps by the situation of the burn, by individual peculiarity, and other circumstances which it would be difficult to particularise. Patients dying from the immediate effects of a burn, die either in a comatose state, a state of excitement, or one of alternate excitement and depression, all which states the post-mortem appearances tend to explain.

If the irritation of the cutaneous envelope, and the repercussion of the fluids to the interior, be not sufficient to produce death in a few hours, (say 48, although the period is variable) reaction takes place, which may destroy life by producing phenomena referable to the nervous system, or by producing inflammation in those organs which are the seat of congestion; these phenomena are ordinarily revealed about the 4th or 5th day, but death may take place at a variable distance of time. If the patient survive the period of irritation and congestion, and that of reaction and inflammation, he may still fall a victim to long protracted suppuration; in these cases the lesions found are such as ordinarily exist in those who die of chronic diseases, the most frequent being profound alterations of the mucous coat of the small intestines. Suppose the patient escape this last danger, according to Messieurs Marjolin and Olivier there is still another in store for him; they state that they have often seen patients who had been affected with great burns, die at the period when their wounds were entirely, or almost entirely cicatrised; they further add, that Delpech assures us, upon examining their bodies, he has found no organic lesion, and seems to think that death in these cases may be attributed to the disturbance of the functions of the skin.

I will now proceed to give an abstract of 11 post-mortem examinations of individuals who died within 48 hours after extensive burns, occupying almost the entire surface of the body; and I wish it to be particularly noted, that these cases have been collected, not selected; that they, as well as the succeeding ones which I shall relate, are all that I have been enabled to procure.

Related by Wallace, of Dublin.—Child: died in five hours; brain and membranes congested; sanious fluid in the ventricles of the brain, and at its base; lungs and right side of the heart congested; peritoneum and mucous membrane of stomach and intestines congested. It is further noted that bloody mucosities were found in the small intestines, and that there was a gradual decrease of the congestion from the duodenum to the rectum.

Liston relates a case: died in 2 hours. Brain congested; bloody serum in the ventricles and at the base of the brain; lungs gorged, mucous membrane gorged, containing bloody mucosities; bloody serum in pleura of pericardium; bloody serum in the abdomen; extreme congestion of stomach and small intestines; bloody effusion in uterus and vagina. The membrane lining these, red.

Dupuytren relates a case.—Child, aged three and a half, died in six hours. The arteries and veins of the body empty; membranes of the brain remarkably dry; ventricles filled with a reddish serosity; brain injected; pleura and pericardium remarkably dry; lungs much gorged; mucous membrane red; peritoneum dry; the mucous membrane of stomach and male intestines injected; liver and spleen gorged; the bladder contained turbid urine.

Samuel Cooper relates a case of a

boy, æt. 15: died in a few hours. Bloody serosity found in the ventricles of the brain and in the pleura, and congestion of the mucous membrane of the lungs and intestines.

Mr. Arnott, of the Northern Hospital, has furnished me with four cases, all females, ages from three and a half to 22, periods of death varying from 4 to 13 hours after the accident. In one, the only morbid appearance was a gorged state of the sinuses of the dura mater and the abdominal and thoracic viscera presented no lesion. In all the other three, the brain was congested; in two the ventricles contained a bloody serum, and in one a similar fluid was found at the base of the brain; in one the chest was not examined; the other two presented a congested state of the lungs, and in one of these five ounces of turbid serum was found in the right pleura; in one of these three the abdomen was not examined; in a second the abdominal viscera are noted as congested; whilst in a third the jejunum and ileum were studded with red spots, and softened; but it appeared from some leech-marks on the abdomen, that this individual had laboured under previous disease of the abdomen.

The next case in order is related by Dupuytren: female, æt. 27, died in 36 hours. Brain firm and dry; arachnoid membrane dry; pia mater much injected; lungs gorged, mucous membrane red, and filled with mucosities; peritoneum dry; the mucous membrane of small intestines, particularly the ileum, injected; miliary ulceration in the mucous membrane of the stomach, near the pylorus; liver gorged; bladder contained a turbid urine.

Dr. Cumin, of Glasgow, relates a case; female, æt. 27, died on second day.—Two ounces of serum in the right side of the chest; an ounce and a half in the left side. Lungs gorged; peritoneum lining lower part of the abdominal and the peritoneal coat of the small intestines highly injected; the mucous membrane was in a similar state; the bladder contained no urine.

Mr. Swan gives a case, boy, æt. 5, died in 38 hours. Membranes of the brain much more vascular than usual, particularly the velum interpositum, and that investing the pons varolii: about an ounce of serum at the foramen magnum; purple spots underneath the pleura; all the abdominal viscera sound, except the stomach, in which were several stripes and spots, like sloughs, extending deep, and quite black.

I have not particularized in the above cases the parts burned, as in every case nearly the whole surface of the body had suffered, neither have I specified the degrees, as each case presented every degree. With respect to the case in which the sinuses of the dura mater alone are noted as gorged, this individual might be said to have died from excess of pain: it may be further remarked, that all the above cases terminated fatally within 48 hours, and that the eight first cases, which terminated fatally within 13 hours, presented more marked congestions than the three which survived several hours longer; that of these cases seven were females, two males, and two sex not specified; and that seven of the individuals were under 15 years of age, and four above 15. That in one no examination of the head was made, whilst in ten lesions of various extent were found, from simple engorgement of the sinuses to the effusion of bloody serum in the ventricles and at the base of the brain; that in one no examination of the chest was made; in one no lesion was found; whilst, in nine, lesions to various extents existed; and that, with respect to the abdomen, we have the same result, viz., one not examined, one no lesion existed—whilst lesions of various extents existed in nine: so that we have, in eleven cases, lesions of brain or its membranes, ten of the contents of the chest, and abdomen nine. I think, then, the deduction may be fairly drawn, that in almost every case of extensive burn, those who die within forty-eight hours present lesions of the contents of one or more of the three great cavities of the body.

We will now proceed to examine the post-mortem appearances presented in those who died at variable periods after forty-eight hours from the time of the accident; the number of cases being sixteen.

1. Related by Dupuytren. Female, æt. 40, burn of the left upper half of the body; lived four days; the pia mater and brain were found slightly punctured, gastro-intestinal mucous membrane inflamed in many points; remarkable redness of the inner surface of the veins. We may remark on this case, that the abdomen was not

burned, but that the chest was; no mention, however, is made of any lesion in the chest.

2. By Dr. Cumin. Female, æt. 4, burn left side of body and hypogastrium; died on the 5th day; pia mater, choroid plexus, and velum interpositum, congested; extravasated patches of blood under the pia mater, bloody serosity at the base of the brain, two ounces of serous fluid at each side of the chest, little fluid in the pericardium; the abdomen contained about three ounces of serous fluid, and the peritoneal coat of the small intestines presented a blush of inflammation. It may be remarked, that the blush of inflammation corresponded to the seat of the burn on the abdomen.

3. Infirmary case. J. L., a female child, æt. 5, burn of the abdomen; died 6th day; had epileptic attacks from the time of admission, and died comatose. The only part I could examine was the peritoneum, which was quite sound. The above three cases may be said to have died during the period of re-action, before inflammation had taken place, or was only in its first stage.

4. By Dr. Cumin. Female, æt. 7, burn, especially of the abdomen; lived 4 days; the omentum was found very vascular, the peritoneum covered with red vessels, intestines glued together with coagulated lymph, the mucous membrane of the small intestines with gangrenous spots in various parts. In this case also there was a considerable intersusception. This case is interesting in two points of view; first, shewing a correspondence between the external and internal lesions, and secondly, shewing with what rapidity inflammation may proceed to a disorganizing extent.

5. By Mr. Wallace. Female, æt. 40, burnt face, neck, right side of chest, arm, and shoulder; died in 7 hours; serous exhalation over the hemispheres of the brain, bloody serum at the base of the brain, partial hepatization of the right lung—Note, in this case, the right side of the chest burnt, and the right lung hepatized.

6. By Liston. Female, æt. 3, burn upper part abdomen and lower part of chest; died on the 7th day, from perforation of the stomach. In this case also the internal lesion corresponded to the external burn.

7. By Dupuytren. Female, æt. 17, attempted to destroy herself by producing asphyxia by charcoal: whilst in this state the feet were placed in a pediluvium of too high a temperature; they were severely scalded, erysipelatous inflammation came on, and she died on the 7th day. The only morbid appearance was a tolerably well-marked congestion of the brain and its membranes.

8. Infirmary case. J. L., æt. 28, burn of the arms and chest, and nates; died on the 8th day, from perforation of the duodenum.

9. By Dr. Cumin. Female, æt. 7½, burn of the face, abdomen, and inner sides of both arms; died on the 9th day: several red patches were found underneath the right pleura, and the mucous lining of the bronchi was very vascular: the peritoneal mucous coats of the intestines were morbidly vascular; gangrenous spots, moreover, were found in the small intestines. We remark, in this case, that the principal part of the burn existed on the abdomen, and that the principal lesions were found in this cavity; but that lesions also existed in the thorax, though the parietes of this cavity had escaped.

10. By Dupuytren. Female, æt. 63, burn of the posterior part of the nates, trunk, and thighs; died on the 11th day: the arachnoid membrane inflamed, and reddish serum in the ventricles; slight effusion into the pleura; bronchial mucous membrane injected, containing a thick mucus, right lung hepatized; the mucous membrane of the stomach was very red.

11. Infirmary case. J. L., female, æt. 14, burn of the nates, neck, and both arms; died on the 12th day, from perforation of the duodenum and acute peritonitis.

12. By Dupuytren. Male, æt. 33. deep burn from the nates to the ham; died from tetanus on the 13th day; arachnoid membrane opaline, the pia mater and cineritious substance of the brain, to the level of the ventricles, congested; medullary substance speckled; ecchymosis on each hemisphere; the veins in the spinal canal gorged, and the grey substance in the interior of the cord injected; the large veins in the chest gorged, also slight engorgement of the lungs, particularly posteriorly: the mucous membrane of the great cul de sac of the stomach, ileum, and ascending colon, injected.

13. From the *Glasgow Journal*, for 1833. A case related of an individual burned on the upper part of the body; died from tetanus on the 18th day; the brain and its membranes were remarkably dry; no mention is made of the chest or abdomen—the only lesion remarked was a slight alteration in the nerves of the upper extremity of the burned side. This case offers a remarkable contrast to the one recorded by Dupuytren.

14. By Mr. Arnott, of the Northern Hospital. Female, æt. 50, burn of the right side of the chest, arm, neck, and face; died on the 24th day; seven ounces of turbid serum were found on each side of the chest; both lungs congested; vivid inflammation of the mucous membrane of the larger bronchial tubes. In this case, the burn was on the right side of the chest; both sides, however, were equally affected.

15. By Samuel Cooper. Child, æt. 3, extensive burn; died in a month; deposit of pus in the lungs; mucous membrane of the bowels inflamed in various places.

16. By Dr. Cumin. Female, æt. 8, burn of the left side of the chest and abdomen, to the upper part of the same side of the body; died on the 35th day, apparently from irritation and exhaustion; the left pleura costales and pulmonalis adherent throughout their whole extent, the adhesions being evidently of recent date. We may notice in this case the adhesion was on the burned side.

In all the above cases the whole tissue of the skin was more or less destroyed, in some the destruction extending to the subjacent parts. Three died during the period of re-action, one during that of exhaustion, and 12 during that of inflammation. It may be further remarked, that in 8, the internal lesion corresponded more or less in locality to the external injury, whilst no such correspondence existed in the remaining 8: that of these 16 cases, 13 were females, 2 males, and one the sex not specified. Eight were under 15 years of age, and eight above that age. It will be interesting now to take a summary of the lesions existing in the separate cavities of these 16 individuals, and to compare them with the lesions found in the 11 cases which died within 48 hours. In these 16 cases, the head was not examined in 4, no mention of any lesion in 3, no morbid appearance in 3, lesions 6, whilst in the 11 cases 10 lesions existed. The chest was not examined in 3, no mention made of it in 3, nothing found in 2, lesions 8, whilst in the 11 cases 9 lesions existed. The abdomen — no mention of any lesion in 2, nothing found in 4, lesions 10, whilst in the 11 cases 9 lesions existed. Now, in summing up the lesions existing in the separate cavities of these 27 individuals, who died from the effects of burns, we find that the head suffered in 16, the chest in 17, and the abdomen in 19. Now, if we examine the proportion of the tissues affected in the different cavities, we find no lesion of the brain alone, whilst 6 lesions of the membranes are mentioned, and 10 of both brain and membranes, pleura alone 4, lungs alone 5, pleura and lungs 2, pleura and bronchi 2, lungs and bronchi 2, lungs, pleura, and bronchi 3, of the peritoneum alone one, mucous membrane alone 11, peritoneum and mucous membrane 7; of these cases, the lesion was of the mucous membrane of the stomach alone 2, of the intestines alone 9, of both 7; so that the lesions of the different tissues were—brain 10, membranes 16, lungs 12, pleura 10, mucous membrane 7; whilst in the abdomen we have of the peritoneum 8, mucous membrane 17.

These results are not in correspondence with those which the authorities quoted would lead us to expect: thus, Mr. Wallis states, that the congestive stage is sooner or later followed by inflammation, more frequently of the lungs than any other part. Dr. Cumin remarks, that the tendency of the inflammation is to produce effusion into the cavities of the serous membranes, and that the serous membranes suffer more than the mucous class, and that the mucous membranes of the digestive organs do not suffer in the exclusive manner which the followers of the new French doctrine of Broussais would lead us to expect; but, on the contrary, it suffers much less than membranes of the serous class. Dupuytren makes no distinct statement upon this subject; he remarks, however, that when the head is burned the irritation is likely to be propagated to the membranes of the brain. (On this point I have to remark, that I have only seen one case in which the whole head was exclusively scalded;

in this case the membrane of the tympanum of one side was destroyed, but the patient got well without having had any symptom whatever of irritation of the membranes of the brain.) Dupuytren states, that death in a short period after burns occurs particularly in children and nervous females, rarely in adults, and scarcely ever in old people; and, in another place he says, we should never forget, that in every case, women and children, and nervous subjects, bear worse the pain attendant upon these lesions than individuals of obtuse sensibility, sanguineous temperament, and than old people and adults. Upon this point I subjoin the following table of 59 burns and scalds, that occurred during the two years I was house-surgeon to the Liverpool Infirmary :—

Of these 59 cases 40 were burns, 18 scalds, and 1 both scald and burn; of the scalds 9 were males, and 9 females; of these, 3 died, all males; of the burns 13 were males, and 27 females; of these, 21 died, 1 male and 20 females: so that out of 59 individuals, scalded or burned, 22 were males and 37 females; and that out of 59 cases, 24 died, 4 males and 20 females.

	Under 5	between 5 & 10	10 & 20	20 & 30
	4	6	19	12
Died	2	3	8	3

	Between 30 & 40	40 & 50	50 & 60	70 & above
	6	7	3	2
Died	3	3	1	1

If we look at these 24 deaths in another point of view, we find that 12 died within 48 hours after the accident, or the period of congestion; 5 between this period and the 5th day, or the period of re-action; 6 between the 5th day and the 16th, the period of inflammation; and one on the 14th day, or the period of exhaustion from suppuration.

I may now be allowed, from the above observations, and the cases previously given, to draw the following deductions, which seem to be the necessary results derivable from them.

1st, That more females are burned than males, and that of those burned a greater proportion of females die than males; this is easily explained by the occupation of females causing them to be more exposed to fire than males, and from the nature of their dress rendering these burns more severe than in males.

2nd, That death may take place in one of the four stages of congestion and irritation, reaction, inflammation, and exhaustion. 3rd, That the greatest number die during the period of congestion, being nearly one-half; nearly one-third during the period of inflammation; rather more than one-fifth during the period of reaction, and very few during the period of exhaustion. 4th, That more individuals above the age of 15 than under that age die during the period of inflammation, more die under that age than above it during the period of reaction, and that during the period of congestion the proportion of deaths above or below this period of life offers but a slight difference, being fourteen above 15, and eleven under 15. 5th, That in almost every burn, I think I might say every burn, lesions of one or more of the viscera contained in the three great cavities exist, being according to their frequency as follows: abdomen, chest, head. 6th, That the lesions in the different tissues contained in the abdomen are in the following order—mucous membranes, serous membranes, parenchymatous tissues: in the chest it is quite the reverse, viz., parenchymatous tissues, serous tissues, and, lastly, mucous; in the head, membranes, brain. 7th, That the seat of internal inflammation corresponds sufficiently often with the external position of the burn, but that in a precisely and equal number of instances no such correspondence can be traced; but if it be admitted that there is a correspondence between inflammation of the contents of the abdomen and a burn of the lumbar region, the relation between the external injury of the internal lesion preponderates over those in which no such relation exists. I will now detail two cases which occurred in the infirmary when I was house-surgeon, and along with these one by Liston, all of which are incorporated in the preceding report.

Anne Jones, æt. 28, admitted into the infirmary on the 2nd of April, 1834, with an extensive and deep burn of the arms, chest, and nates. She stated that she was in perfect health previous to the accident; she vomited more or less every day, sometimes excessively; had considerable pain on pressure in the epigastric region, with a red, glassy tongue, and intense thirst; bowels constipated, and relieved by enemata; the pulse for some days was small and weak, then

full and strong; died on the eighth day after the accident.

Post-mortem Examination.—No peritoneal inflammation, stomach contracted, mucous membrane white, firm; not a vessel to be seen upon it; pylorus healthy; at the superior angle of the duodenum a perforation or ulceration existed, of the size of a shilling; the margins of the perforation were adherent to the gall bladder, but the slightest traction separated them; the surface of the gall bladder filling up the area of the perforation soft, and as it were eroded, the softened surface being easily scraped off; the edges of the perforation, and the corresponding surface of the gall-bladder, were of a black colour; two or three ulcers of the size of a pea, and with dark edges, were also found in the duodenum, and the remainder of the intestinal mucous membrane quite healthy, excepting two small red patches in the sigmoid flexure of the colon, which corresponded to two masses of hardened fæces.

Helena Birch, æt. 14, admitted May 24, 1834, with a burn of the second degree, of the nates, posterior part of the neck, and both arms; she was in perfect health prior to the accident. She complained of nothing except pain in the burned parts, until the 10th day after the accident. At this period pain in the epigastric region commenced; at the same time the hypogastric region became the seat of pain; the tongue was but slightly altered; she had no vomiting, and the pulse was small and quick. On the 11th the symptoms were more severe; on the morning of the 12th the pain in the epigastric region became intense: very shortly afterwards she was seized with vomiting and profuse diarrhœa, sudden distension of the abdomen, prostration of strength, and in eleven hours she died. There was no doubt but that perforation had taken place in some part of the gastro-intestinal tube; note, she always lay upon the abdomen.

Post-mortem Examination. — Peritoneal lining of abdominal muscles, and its reflections over the liver, uterus, and intestine, coated with custard-like coagulated lymph; the omentum was in a similar state, and about two pints of whey-like fluid floating in the cavity of the abdomen; the peritoneal coat of the intestines intensely red; the mucous lining of the stomach, jejunum, and ileum, quite healthy; a few red patches in the colon; the duodenum, at its superior angle, presented a perforation the size of a shilling. The state of the duodenum, and of the perforation in this case, differed from the preceding one only in the following particulars: the perforation was rather nearer to the pylorus, its margins were not black, it did not adhere to the gall bladder, and there were no ulcerations.

The case recorded by Liston is as follows:—Female child, æt. 3, on 4th May received a severe burn of the upper part of the abdomen, lower part of the chest, arms, and occiput; on the 7th day vomited blood, and died. Lymph in flakes, slightly gluing the intestines together; purulent yellowish fluid in the cavity of the abdomen; grumous blood with lymph lying at the lower border of the stomach; two ounces of grumous blood in the stomach; perforation in the stomach beyond the pylorus; the edges of the perforation elevated; some enlarged glands in the external coat of the stomach, near the perforation. The coats of the duodenum also, near the ulcer, were thickened and elevated with spots of a yellow hue.

I have been induced to give the two cases of perforation of the duodenum in detail, as I believe they are unique; indeed I am not aware of any case being recorded, of perforation of the gastro-intestinal tube occurring after a burn, except the one I have quoted from Liston, which approximates to my two cases by the perforation being near the pylorus, and by the change which had taken place in the duodenum.

Moreover, perforation of the duodenum, from whatever cause arising, is any thing but common. Thus Louis, in his work on gastro-enteritis, says, "that upon examining the duodenum in 22 cases, which died from typhus, he found the mucous membrane softened in three, the mucous crypts enlarged in three, whilst one or two ulcerations, superficial and small near the pylorus or beyond it, were only found in two; that in examining the duodenum in 36 cases which died from diseases not typhoid, he found traces of softening only in three, and in none the slightest ulceration. Andral, in his classification of ulcerations of the intestinal tube, places the duodenum last on the list. In looking over several periodicals, and other books, I found twelve cases of perforation of the duodenum recorded; three were produced by gall stones, two

by accidental violence, one by a violent fit of passion, after dinner; one by swallowing a spoon; five by disease; in one of these the perforation was stopped up by the liver, in the other the duodenum communicated with the colon through the medium of the gall bladder.

I have been led to mention these cases in consequence of the appearance presented by the specimens*; for in all the above cases, where the appearance of the aperture or perforation is described, its edges were elevated, excepting those produced by direct violence, and the one produced during a fit of passion after dinner. Now, I may ask, what was the nature of the perforation in these two cases. Andral, speaking of perforation of the stomach and intestines, says that they are not necessarily produced by ulceration: it may be the effect of softening; a gangrenous ulcer may fall, and give rise to perforation—a circumstance observed only in strangulated hernia, and in cases of poisoning by sulphuric acid. He also states, rupture may take place from violence, and also in animals from over distension, but not in man, unless previous disease existed in the parietes. Carswell, in the article Perforation, in the Cyclopædia of Medicine, says, we are not inclined to believe, and we think facts are wanting to prove, that perforation of the stomach and intestines takes place in consequence of inflammatory softening of the walls of these organs; that perforation of the intestines takes place most frequently in consequence of ulceration occurring in glandulæ agminatæ or solitariæ; that the ulceration may have been acute or chronic, generally the latter; the ulcerated portion of intestine may be pale, or present various degrees of redness and vascularity; the perforation may be large enough to admit the end of the finger or thumb; its edges are generally smooth, more frequently circular than irregular, and that perforation may occur in one, two, or three of the glands of Peyer, in the same individual. He further states that in the intestines, as well as in all organs covered by a serous membrane, perforation is always preceded by sloughing of this membrane, for when the ulcerative process has destroyed the subserous cellular tissue, and consequently the vessels which supplied it with the materials of its nutrition, it soon dies, and is separated in the form of a grey or pale-coloured slough, or tinged with the colouring matter of the bile or fæces, but without the odour of gangrene. One plate (vide Carswell) is a specimen of this kind of perforation succeeding to chronic ulceration of the follicles, followed by sloughing of the serous membrane. The edges are as smooth as if they had been cut by a knife, and present no trace of inflammation. The specimens on the table, then, seem to be of this nature, but of an acute kind. In neither case did I notice the sloughed peritoneal covering: in the first case it could not exist, and in the second it may have been diffused through the contents of the abdomen. The enlarged glands in the duodenum, mentioned in Liston's case, I take to be the first stage of what occurred in these two cases.

In conclusion, then, I may remark, that burns are not a simple injury, but a very complicated disease, of which the numerous and various degrees constitute so many affections, which present marked characters, variable results, particular complications, and which may require various kinds of treatment, and that in them we find combined all the internal complications which severally attend upon irritation of the cutaneous surface, whether produced by erysipelas, measles, scarlatina, small-pox, &c.

* The specimens referred to were exhibited to the Liverpool Medical Association.

INHALATION IN TUBERCULAR PHTHISIS PULMONALIS.

To the Editor of the Medical Gazette.

Sir,

As the practical consideration of any new remedy which may be proposed for the relief of disease, must be one of the useful purposes of a periodical journal, I trust that some further observations on the question of Inhalation in Tubercular Phthisis Pulmonalis, and in Chronic Bronchitis, may be offered to you as an acceptable contribution.

It was in 1830 that I published the first edition of my Cases in illustration of the subject; and therefore I may lay claim to a very extended experience of this particular method of treatment, and to the consequent opportunity of forming a more mature judgment of its merits. But I wish, in the first place, to be understood as speaking of this

remedy in the light of an auxiliary, and one not exclusive of other treatment. It is to be considered that every practitioner, in consenting to adopt this treatment, may at the same time employ those general means in which he is accustomed to confide. I believe that I have derived from this method of practice more success, and a larger share of satisfactory result, even where cure was not attainable, than the majority who have adopted it. This I can only explain from my greater study of the action of remedies administered in the way of inhalation; from my greater confidence in their power and usefulness; and consequently a more patient perseverance in their employment. Yet I do possess a large collection of professional testimony in favour of the inhaling treatment, and some of which I have already published. It is probable, however, that the larger part of the profession may not have paid any attention to it. Some, from theory only, never having made trial of inhaling, or even witnessed its effects, condemn it, as a hurtful irritant to the lungs. Some, on the other hand, also from theory, regard it as a feeble, doubtful, and very troublesome method. Others assure me that they have given a very fair trial to the inhalation of iodine and conium in consumption, according to my recommendation, with eventual failure, as with all other means of treatment of this lamentable disease, although at first much pleased with the remedy, and greatly encouraged with the hope of success. There are a few who pass a strong censure on the mode of receiving the medicated vapour by the tubes of the glass inhaler.

I shall endeavour to offer a running commentary on the several points which I have here stated.

I affirm that the inhalation of iodine and conium, so far from irritating the air passages, either in tubercular phthisis or in chronic bronchitis, proves more or less soothing, provided it be used of proper strength, and that inflammatory action be not present; — pleasingly soothing, I repeat, independently of its more remedial power, of which I shall have to speak. Notwithstanding the certain trouble of the process, the patient looks with pleasure to the hour of repeating it, from his confidence of receiving relief.

There may be some of the profession who, having witnessed very untoward effects from the internal administration of iodine, or occasionally, even from its excessive employment externally, dread its use even in the way of inhalation; and, as I now and then read in print, speak of the evils of this potent medicine so employed. But what remedy or treatment, either in the hands of the physician or of the surgeon, would not fall into discredit and even odium, if its merits were to be adjudged from the occasional accidents which arise, whether to be referred to the unfitness of the case, or particular symptoms temporarily existing; to error in the doses or mode of administration; or to idiosyncracy of constitution in the individual, which renders him an unfair example of the merits of the remedy employed? This position might be illustrated by a thousand examples. Some declare they would endure any pain, or continued loss of sleep, rather than swallow the least portion of opium, having experienced, in their system, its distressing effects. Others, who from a few grains of blue pill have incurred a very severe salivation, would expect death itself to ensue from even a moderate use of calomel.

There are again others who call in question the efficacy of inhalation, and denounce it as a feeble and uncertain mode of practice, inferior to the routine administration of medicines by the stomach. Amidst such conflicting opinions and prejudices, who shall determine the truth?

> "Utinam tam facile vera invenire possem, quam falsa convincere."—CICERO.

It might be supposed that time alone would serve to decide the real pretensions of any remedy introduced into general use; but in reality the influence of fashion extends even to medicines; as we have often seen that a favourite remedy, popular alike with the profession and the public, has, after no distant interval, been condemned, discarded, and forgotten. Yet it has again been the fate of several medicines so discarded to return into favour, and enjoy a fresh reign.

It is therefore extremely difficult to discover the truths of physic, and to establish on solid grounds the just claims to confidence which any particular medicine, or mode of treatment, may really possess. Preconceived opinion and prejudice too commonly stand in the place of reason and dispassionate inquiry, and

oppose the advance of truth. The dangerous nature of consumptive disease, and its great fatality, should rather serve to stimulate our industry to discover some method of lessening the force of the scourge, than to be passive spectators of its dire results. The high authority of Laennec may probably have had some influence in confirming the general opinion of the incurable nature of phthisis pulmonalis. The distinguished author observes (Forbes' Translation, p. 305):—"The observations contained in the Treatise of M. Bayle, as well as the remarks made in the present chapter on the development of tubercles, sufficiently prove the idea of the cure of consumption in its early stage to be perfectly illusive. Crude tubercles tend essentially to increase in size and to become soft. Nature and art may retard or even arrest their progress; but neither can reverse it. But while I admit the incurability of consumption in the early stages, I am convinced, from a great number of facts, that in some cases the disease is curable in the latter stages —that is, *after* the softening of the tubercles and the formation of an ulcerous excavation."

The attempt, therefore, to treat tubercular phthisis by any novel mode, with the expectation of success, is thought probably to wear the appearance not only of presumptuous boldness, but of the vain pretensions of quackery* itself. Far be it from me to speak in any light terms of this fearful disease, or to boast that I have certain means of cure at my command, in any case which may present itself.

I have now enjoyed no short term of medical life, and can well remember the results of different methods of practice in this disease in former years, without any success resulting. For a long period it was a favourite practice to put the patient on very slender diet, perhaps of milk, vegetables, and fruits, exclusively; and especially on the use of digitalis at the same time; on the theory of procuring a quiet state of the circulation, and preventing irritation and over-action of the lungs, by keeping the formation of the blood within the narrowest limits, as to its quantity; and abating its stimulating quality also, by lessening the density of its red particles.

Finding the constant failure of this and other modes of treatment, about twelve years ago I first made trial of the inhalation of iodine and conium, not having then heard of any experiment of the kind being made by others. I was gratified by a degree of success which I had never obtained from any other means; and I published some of my results in November 1830. But great as is the importance which I attach to this one remedial method, I should be sorry to have it supposed for one moment that I would depend on it alone. On the contrary, I am fully aware how essential a matter it is to treat the whole constitution; such treatment being modified according to the circumstances of the individual case. As a general principle, I am an advocate for a very supporting plan of diet, and the use of corrective tonic medicine, combining with it the occasional careful administration of *alteratives*. Good air, the avoidance of vicissitudes of temperature, while, at the same time, a due ventilation is well maintained in all the apartments which the patient occupies, are points of great importance. It is not sufficient that we attempt to relieve the lungs from the irritation of tubercles at present existing; but we must endeavour to remove the tubercular *diathesis*, and counteract the tendency to fresh formation of tubercles. Hence it follows also, that when a consumptive patient may have had the good fortune to be benefited by treatment to the extent of a tolerable recovery, it is incumbent upon him to lead a life of exceeding care afterwards, in regard to diet and regimen, clothing, place of residence, and in every material particular relating to health; in order that a relapse may be prevented.

It is a question of the highest interest to consider whether we may not, in contradiction of the gloomy declaration of Laennec, undertake the cure of the early stage of tubercles, with the hope of success? I have, in numerous instances, by means of inhalation, and *combined* treatment, succeeded in removing the early state of tubercular

* I have occasionally met with observations of this nature applied to myself, with reference to inhalation; but they have always been either deficient in courtesy, or so stamped with scurrility, and vulgarity of style, that they have never called for my serious notice, or more than my silent contempt. Written in the same spirit of low detraction, some letters have lately appeared in the Lancet, doing equal discredit to the head and heart of the writer, respecting the London Dispensary for the Diseases of the Lungs. The prosperity of the Institution will be the best refutation of such puny attempts to injure either the Charity itself, or its Medical Officers.

irritation, and which had been clearly manifested by the signs revealed by auscultation and percussion, by great elevation of the animal heat, and by the concurrent symptoms of cough, short breathing after quick exercise, frequency of pulse, hectic fever of greater or less amount, wasting of the body, and loss of strength.

As an example bearing exactly on this point, I will advert to the case which I published in the second edition of my work on Inhalation, &c. p. 66. I stated, in the observations on the case, p. 73, that, from the several indications, it was reasonable to believe that tubercles existed. The recovery of the patient under the treatment adopted was most satisfactory. He remained quite well for upwards of a year, and continued so, with a slight exception, for a much longer period, enjoying the sports of the field, and displaying great strength of body in his various exertions. He resided in a distant part of Scotland. But, presuming most imprudently on his state of recovery, he committed excesses at the table, with late hours at night, and carelessness of exposure in the day. Under these circumstances, he was attacked most severely by the epidemic influenza, from which he never fairly recovered. He came under my observation about a year afterwards, when, upon examination, I found, on the upper part of the right lung, the clearest signs of the existence of a cavity. The pectoriloquism was most strongly marked. The left lung was also much diseased. Under a course of treatment he amended greatly; but again having neglected himself, and suffering from a fresh attack of influenza, he relapsed into a hopeless state, although he combated with his disease for a considerable length of time.

Is it not evident, from the indications by auscultation, as well as from the physical symptoms stated in the work referred to, that the right lung was tuberculated when I began the treatment in March 1830? and that the remedies removed all irritation of the lung? For, according to his own cheerful letter, six months after, he described himself as strong and fat, and without cough. Whether absorption of tubercles had taken place, or a change in their condition been produced, or that the state of the lung was so altered as no longer to be irritated by the tubercles as foreign bodies, would be matter of theoretical speculation. It will, perhaps, be said that it was not a recovery, because he afterwards died from the disease: but he did enjoy a long season of health; and, had he led a prudent life, might probably have avoided the subsequent danger which he incurred.

The lady, whose case I relate at page 138 of the work before mentioned, is at the present time enjoying very comfortable health, and her lungs, as I had lately the opportunity of ascertaining, are quite free from all signs of disease. Nine years, therefore, have elapsed since the period when I first visited her, and found her in the state which I described at the time in the following words:—"She was very much emaciated, was so extremely weak, with such hollowness of cheeks, and such looks of sinking, that my first impression was that of distress from the apprehension that the case was beyond the reach of any medical treatment. The pulse ranged from 120 to 130, and was occasionally more frequent; the cough was violent, and so peculiarly harassing at night, that the sleep was constantly disturbed. The expectoration was difficult, partly coloured with blood, the whole of a very puriform appearance, and in quantity about four ounces in the twenty-four hours. There were morning and evening accessions of hectic fever. The night perspirations were so profuse, as completely to saturate the sheets with moisture. She was so reduced in strength, that she required to be carried from the bed to the sofa in the adjoining room. At the upper part of the right lung there was pretty well-marked pectoriloquism and strong *gargouillement.*"

This quotation from my narrative of the case will be sufficient to shew its great importance, and the value of the treatment. Fortunately for my exertions, this lady, distinguished in her character by every estimable quality, possessed that first of virtues in a patient—entire obedience. She did complete justice to all my recommendations, and was eventually rewarded with a return of health.

The patients, whose symptoms of tubercular phthisis, with the treatment, were fully described in this Gazette, beginning at page 720, vol. xv. have

not had any relapse, and are now enjoying excellent health; a period of rather more than five years having elapsed.

In the following case of a young lady, aged 24, whose sister had died from consumption, the inhalation of iodine and conium rendered the most satisfactory relief, and lasting benefit.

In the history which she gave me of her case, she stated that, in the year 1830, she had fallen into a very delicate state of health, in consequence of a chest complaint. She went abroad, in the hope of re-establishing her health; and which object was in great measure effected by residing five months at Nice. Yet, living again in England, she experienced a relapse of her disorder in 1832; and such was the delicacy of her chest, that any slight exposure to a damp or cold atmosphere was almost certainly followed by pulmonary disturbance; her symptoms being, shiverings, succeeded by heat of skin and perspirations; cough and shortness of breathing; with a general soreness of the chest, and a sense of constriction, attended with debility and great depression of spirits.

Under such circumstances, I was consulted; and, upon examination of the chest by auscultation and percussion, I had the clear evidence that the upper part of the right lung was much tuberculated; but on the left side the respiration was natural, with the exception of some slight rales. I adopted my usual plan of treatment, the particulars of which I will not detail. The result was most satisfactory. My patient described that she "felt from the inhaling a soothing and healing effect; soreness and pain were soon removed; and she became sensible of a freedom and expansion of the chest to which she had long been a stranger. The relief which she experienced gave her the idea of long-closed valves being re-opened and set free." After a few weeks, all the troublesome symptoms passed away. By pursuing a careful system of management, medical and dietetic, and paying strict regard to regimen, this young lady regained her health; and, I have every reason to believe, has continued well.

In the beginning of June, last year, I was consulted by a gentleman, aged 35, long an invalid from pulmonary disease. He had resided many years in the West Indies, from whence he came in what he felt to be a hopeless state of suffering. I found him in bed, too weak to leave it. There was an assemblage of the most urgent symptoms; a frequent and very weak pulse; the animal heat 99*; urgent cough, with difficult expectoration of an offensive puriform sputum†, occasionally coloured with blood; the chest much oppressed, and the breathing quick and uneasy on the least exertion, with occasional pain in the sternum and intercostal muscles: he had hectic fever, and night perspirations, which were not only profuse, but of a peculiarly faint and disagreeable odour. Sleep slight and unrefreshing; without appetite, and the functions of the liver unhealthy; much reduced in flesh, and having coldness, and considerable œdema of the ancles and feet. At the upper part of the right lung there was strongly marked pectoriloquism to a great extent, with *gargouillement*, indicating extensive cavity; the respiration almost wholly bronchial, with sibilant rales, On the left side the respiration was imperfect in some parts, in others puerile, and there were occasional rales, but without pectoriloquism. Percussion confirmed the signs of tubercular obstruction in each lung, but especially in the right, which was scarcely in the least degree capable of its functions. The right side of the chest was flatter than the left, and rose but little in a forced inspiration. His mind was in a state of the utmost despondency; and, contrary to that buoyancy of hope which prevails in acute phthisis especially, but often also in chronic, he had a fixed persuasion that he should not recover‡.

The physician who had been in close attendance for six weeks, apprehended a fatal termination of the case. The limits to which I think it necessary to

* Without exception, I have always found a high degree of the animal heat in tubercular phthisis; shewing, as I conceive, a specific irritation present, allied to inflammatory action, yet different from true inflammation.

† The nature and quantity of the sputum is highly instructive, as regards the disease in its seat, stage, and intensity.

‡ Apart from the great consideration that we are all in the hands of a Superior Power, and cannot know when we may be called away, we do see, as medical observers, the extraordinary difference in the strength of the vital principle, if I may so express myself, in different individuals. Some yield their life to apparently slight assaults of disease; while others recover under circumstances seemingly the most hopeless. Such curious results should, I grant, render the physician very modest in the boast of his art, and make him study Nature the more attentively, that he may have acquaintance with all her ways.

confine myself on the present occasion, will not allow of minute details in my account of the treatment. The patient inhaled the mixture of iodine and conium regularly three times a day, at first for ten minutes, afterwards gradually increased to twenty; small blisters were applied to the chest from time to time: the lotion of tannin infusion, with acetic acid and Eau de Cologne, was applied night and morning to the skin, followed by the use of the flesh-brush. Internally, pills composed of pilula hydrarg. camphor, and c. colocynth extract, were given at night, occasionally, followed by a morning aperient draught; a strong infusion of the cortical part of sarsaparilla, with alkali and gentian, was used twice in the day; and, to procure comfortable sleep at night, he took a soothing morphine syrup, acidulated with diluted sulphuric acid. The plan of diet was changed to one highly nutritious; and such was the langour and debility, that wine, the best port and sherry, was allowed with more than usual freedom. He usually took three or four glasses in the course of the day, in addition to a pint of sound draught porter, not only without disagreement, but with every sense of benefit. He had sometimes alarming attacks of exhaustion, at the commencement of my attendance; and he had indeed said that he was "dying from inanition." After a few weeks, iron and quinine were administered in conjunction, instead of the other medicines.

So beneficial was the whole treatment, that, in rather more than a fortnight, the specific symptoms were most materially relieved, and the strength and spirits were greatly regained. The night perspirations had nearly ceased. As a proof of the amendment of the lungs, he could, in the beginning of July, walk two or three miles, at a quick pace, without resting. He improved progressively. In September he travelled. I saw him again at the end of November, and found a remarkable diminution in the extent of the pectoriloquism, with an evident amelioration in the condition of each lung. The rales had ceased; and by auscultation * there was satisfactory evidence of a very improved respiration. The expectoration continued, but was much lessened in quantity, and almost free from its former offensive odour. It appeared to me that the tubercular cavity was in a favourable progress of healing; and certainly the whole aspect of the patient was promising for a fair recovery; for, to regain perfect health could not be expected, when so much disorganisation of lungs had been produced existing in conjunction with an unhealthy liver. In my early attendance, I was struck with his cadaverous and dark complexion; and this unfavourable omen disappeared in a few weeks. He related to me that at various periods he had experienced slight hæmoptysis. Under my own observation, in about seven weeks from the commencement of my attendance, he used a warm bath, not exceeding 96° in temperature, and was remarkably refreshed by it; but on the same evening hæmoptysis occurred; half an ounce of pure red blood issued with a cough. This hæmorrhage I attributed to the excitement which the circulation had received from the bath. It is satisfactory to state that on no occasion did the inhalation give rise to this accident*; and he always felt more or less of sensible relief from it. This and other treatment was continued, with occasional intermissions, during five months, when he had regained flesh and strength; could walk six or eight miles in the day; and felt himself sufficiently recovered to return to the West Indies, for a period necessary to arrange his affairs †.

It has been my purpose to shew that, in all the stages of tubercular phthisis, it is our duty to enter upon a more or less active systematic plan of treatment, and that we do so with less discouragement of success than Laennec and others have taught. Yet no one can be more aware than myself of the danger of this disease, and its too frequent mortality under every care and exer-

* I may take this opportunity of mentioning that I derived considerable assistance in auscultation from placing a sheet of writing paper over the chest, and listening through this medium.

* I have at present under my care a lady, who, in the course of her illness, before I was consulted, had frequent attacks of hæmoptysis, which have not been reproduced by inhalation. In case of hæmoptysis, whatever the exciting cause might be, I should suspend the inhaling till the disappearance of any blood. This patient has tubercles and a cavity. Her amendment has exceeded my most sanguine expectations.

† This gentleman was staying, during my attendance, at the house of Mr. King, Surgeon, Portland Terrace, St. John's Wood, who can bear full testimony to my account of the case. To his kind care and attention the patient was much indebted.

tion to ward off such a termination. I always wish, therefore, to be understood as speaking of the cure of consumption in a very guarded and qualified sense. I can truly declare that I have had the gratification of very often succeeding in bad cases, where, according to all my earlier professional experience with other treatment, I should have failed.

I am not only convinced of the excellence of the remedy—the inhalation of iodine and conium—but also of its superiority, as a curative agent, over chlorine and creasote; yet, I must again observe, "let it not be imagined that I limit myself to this treatment, which I would rather speak of as a most valuable auxiliary, than as the sole means of benefit." It is incumbent on us to look comprehensively to the state of all the constitutional functions; to attack the tubercular diathesis; to control to the utmost of our power the nutritive functions, from the first digestion of the food in the stomach to the succeeding processes of chylification, lacteal* absorption, assimilation, and sanguification; and to effect a change in the whole mass of blood. With this large view, we are required to combine, with the strictly medical treatment, a precise plan of diet and regimen; of exercise in the open air†, in a manner adapted to the patient's state, in the favourable season of the year; and, in weather precluding out-doors exposure, to direct the arrangement of a medium rather than a high temperature of the apartments, always paying great attention to their fit ventilation. And shall the execution of such pathological and practical views be termed empirical, and without claim to respect?

I know that, in a very large proportion of cases of consumption, there must be eventual disappointment to our hopes; but of this fact I am certain, that it is generally in our power to palliate all the sufferings; to afford very great relief; and to prolong life. It unfortunately happens, and this it has been greatly my fate to experience, that the disease has arrived at its last stage, and when extreme disorganization of the lungs has taken place, before an active plan of treatment has been adopted; so that the opportunity of rendering material benefit has been irrevocably lost. The disease does, indeed, often effect its march most insidiously; and danger is present almost before the sense of illness is felt, or at least acknowledged.

I have, on different occasions, entered my protest against sending the unfortunate patient, as is so commonly done, in a confirmed state of the disease to a warm climate; trusting for benefit almost, perhaps wholly, to its influence. This usually proves a journey to a foreign grave. Rather let us, however late the attempt, and with however poor a prospect of success, enter upon the attentive treatment of the case; and of which, according to my views and experience, inhalation will prove a most valuable part. Here let me again ask, whence the objection? All other means in which medical confidence may be placed may be equally employed without any deduction of benefit from the use of inhalation, which, in theory, from its being a direct application of a potent remedy to the seat of disease, so much recommends itself; and from which I am confident more or less of benefit will always arise. I am quite sure that every practitioner, in the treatment of a consumptive case, feels the anxious and difficult ground on which he treads, and may be well pleased to add to his expedients any one remedy uniting in itself efficacy and safety. I will not attempt to say what proportion there may be, but I regret to admit it must be large, of the cases of true tubercular phthisis which eventually resist all power of medical skill. Yet, is this a reason for supineness and indifference in the mind of a physician? As in all difficulties, let us increase our exertions in proportion to the obstacles which we meet. It is not the reproach of good remedies that they cannot heal immedicable wounds!

I cannot, I think, too often repeat, that, while I claim for the inhalation so great a regard, I consider it to be only one part of the treatment required. The additional constitutional means embrace a very wide consideration. The local external treatment of the chest by proper means of counter-irritation, and by

* The idea of an unhealthy action in the mouths of the lacteals, was first submitted to my consideration by Dr. Sherriffs. To the loss of their peculiar sense of discernment between organizable and disorganizable matter, and the consequent indiscriminate absorption, he attributes all tubercular disease.

† The use of that most valuable apparatus, the Respirator, in certain states of the atmosphere, is very important.

lotions and frictions, is a very important part of management.

I have never seen, from an active remedy, so large a proportion of benefit with so small a proportion of disagreement and inconvenience, as from the inhalation of iodine and conium. The method also is to be considered: and I may here remark, that many excellent remedies have fallen into odium and neglect, at different periods, from the error or abuse of their application. I am careful that all the ingredients which enter into the composition of the inhaling mixture are perfectly pure*. I recommend the following formula:—

℞ Iodinii puri; Iodid. Potassii, aa. gr. vi.; Aquæ destillat. ℥v. ℥vi.; Alcoholis, ℥ii. M. fiat mistura, in inhalationem adhibenda.

I now always prefer to add the conium at the time of mixing the iodine solution with the water; and it should be a *saturated* tincture, prepared with the most genuine dried leaves. In the commencement of the treatment I advise very small proportions of the iodine mixture; for example, only from half a drachm to a drachm for an inhaling of eight or ten minutes, to be repeated two or three times a day. Of the soothing tincture, I direct half a drachm —which I usually find sufficient; but it may be increased if the cough be very troublesome. I soon augment the quantity of the iodine, and progressively from ℥j to ℥iv; but also, then prolonging the time of inhaling, I divide the iodine dose, putting two-thirds at first, and the rest after the expiration of seven or eight minutes. If the temperature of the water be measured by the thermometer, it should be 120° Fahr. as being the most favourable for volatilising the active principles of the iodine and conium, mixed with some watery vapour; but the approximation will be sufficient, if equal parts of boiling and cold water be used; with which the inhaler is not to be quite half filled. Invariably, however, care should be taken to prepare the bottle for this heat of water, by first washing it out with some tepid water.

During the process, the inhaler should be kept immersed in a jug, containing water of rather higher temperature than 120°.

It is of the utmost importance that the strength of the inhaling mixture should be considered in relation to the particular case*; the feelings of the patient will be a great guidance. He should have the sense of relief, and not of inconvenient irritation, produced. The cough arising occasionally during the process is not an objection; but if it be more irritable afterwards, it shews that it has been used too strong. There is a certain stage of the tubercular disease, when over-excitement, from employing the iodine in too great quantity, might hurry on the softening process too quickly. It is here that the treatment demands the greatest judgment. In every case one of the following events may be expected to happen; either that the tubercular irritation will be arrested and gradually removed, be arrested and suspended, but not cured; or pass on to the softening process, which terminates in the production of an excavation. In all these different states of disease I advise the inhaling treatment to be employed.

I have formerly mentioned that at the period when I was preparing my first edition for publication, in the year 1830, Dr. Murray, of Belfast, in a treatise on Animal Heat, recommended the introduction of iodine to the lungs, diffused through warm aqueous vapour into the apartment; and hence it follows that without any communication—for I had not the pleasure of his acquaintance—we had thought of the same remedy; but I am well persuaded that the only certain and exact mode of employing it is by direct inhalation, so that the dose is defined; whereas, in the other mode, many circumstances must interfere with its regularity. Also I find the remedy infinitely improved by the addition of the conium.

In the Medical Gazette for April 6, 1839, we find a paper by Dr. Corrigan, of Dublin, recommending, as a mode of inhalation, the impregnation of the atmosphere of the apartment with iodine vapour, by a mode different from that of

* The various medicines to be used for inhalation may be obtained in perfect purity from Mr. Garden, Oxford Street. Many other chemists, without doubt, also have the articles in question correctly prepared.

* In acute phthisis, the inhaling doses should be very weak. No remedy with which I am acquainted exerts so much influence over the hectic fever, used in the intervals, as the inhalation in question.

Dr. Murray; but the principle is of course essentially the same. I am gratified with the favourable testimony which this physician bears to the remedial influence of iodine vapour in phthisis pulmonalis; but I am not disposed to choose his method of employing it. The volatility of the iodine would cause the vapour to ascend to the highest parts of the apartment*; it would attach itself to the linen furniture, and must, of necessity, find its way to the lungs of the patient in a very uncertain degree of strength. The objections of Dr. Corrigan and others to the direct method of inhaling which I recommend, is without foundation. It does not, as they state, cause irritation to the larynx and air-passages; but, on the contrary, its influence, if used of the proper strength, is soothing and agreeable. The addition of the conium divests the iodine of that irritating effect which would arise from its penetrating acrid qualities when used *per se*.

But we have a higher purpose to fulfil than the mere study of soothing the mucous membrane of the air-passages. The modus operandi of remedies is a question of secondary importance to their real effect, and may lead to endless controversy. It is my belief that this direct and very accurate mode of applying this powerful medicine, iodine with conium, induces a new action in the vessels and nerves of the lungs, which is calculated to supersede the diseased action. I also assign much effect to the stimulation of the absorbents, and have been led to believe that tubercles have in this manner been actually removed.

As the *mode* of conducting the inhaling process is of such sovereign importance, I shall be excused, I trust, if I enter at some length into this part of the subject.

Dr. Harwood of Hastings has lately published an account of the benefits to be derived from inhalation, in which he recommends his newly invented tin inhaler, stating, as the ground of preference over the glass inhaler commonly in use, that it is used with such perfect facility as to prevent fatigue; and, what I must admit, that it is not liable to be broken. I have carefully examined the action of this inhaler, and must take the liberty of offering the following criticism. The ingress tube not dipping into the water, the fresh atmospherical air which enters when the patient inhales, cannot be more than slightly impregnated; and any one making a comparative trial with the glass inhaler, is at once made sensible of the great difference in the strength of the inhalation, from equal quantities of the ingredients used. Indeed this great defect in the construction of the apparatus will apply to any kind of medication of the water. As regards the use of iodine and chlorine, the objection of the metallic nature of this inhaler is a fatal one. I find that an action immediately takes place between these peculiar medicines aud the tin, which weakens their properties very considerably. With the requisite alterations in the ingress tube, this will be rendered a very useful inhaler, when it is desired to employ herbs, or gums; water of a higher temperature than 120° being mixed with such articles to bring out their volatile principles; although the patient should wait the reduction of such temperature to the proper degree, or he would be injured by the direct application of so much heat to the sensible surface of the air passages.

I have not been able to persuade myself of the advantage of the crescent-shaped mouth-piece in Dr. Harwood's inhaler, over the flattened one of the glass tube.

With a well-constructed glass inhaler I find all the satisfaction I can desire. The bottle should be large, and the tubes capacious. The one issuing from the bottles hould be upright, passing off in a gradual slight curve, so that the vapour shall not be much cooled in the course of its progress; the ingress tube should dip very near to the bottom of the bottle, that all the air so introduced may receive impregnation. The patient must be desired to inhale by using at the same time suction and a pretty full inspiration, then to drop the under lip from the mouth-piece and make a free expiration; so conducting the process by pausing, and, if he like, little suspensions, in order that he may not experience any of the fatigue, which would certainly

* Nor is the great *waste* of the iodine a slight objection to this method. The author states that in the use of the apparatus, "about six drachms of the tincture of iodine will be evaporated in an hour;" and when he has it at work, as he says, "from eight to twelve hours out of the twenty-four," it would form no small item of expense, employed in a charitable institution!

happen if breathing quickly, or using an inhaler with small tubes, or with too much water in the bottle.

A little practice also improves the power of the respiratory muscles so that any little difficulty, which may by possibility be felt at the first by a very delicate and nervous individual, is soon overcome. When care is used to prepare the inhaler properly, the accident of fracture is easily guarded against. With respect to the influence of other medicines used in this way of inhalation, I beg to refer the reader who is curious on the subject, to the second edition of my Cases in illustration.

Thus I hope to have made a useful addition to my former statements of the importance of the inhalation of iodine and conium in tubercular phthisis, as constituting one most valuable part of the systematic plan of treatment which I recommend; and if I should ever have appeared to speak of it as the sole and exclusive remedy to be employed, and to be used empirically, I have not done justice to myself, and to my enlarged views of the pathology and treatment of consumption.

Did I not feel the necessity of restricting myself in the discussion of my subject in this letter, I could much increase the evidence of the success of the treatment which I wish to advocate, by the relation of numerous cases of great amendment, or recovery, from tubercular phthisis in its different stages. I might also bring forward instances of relief and cure of various conditions of tracheal and bronchial disease, effected by means of inhalation and combined treatment.

I will, however, now conclude by observing, in the language of the poet to the enemy of the inhaling practice, if such there should continue to be,

"Si quid novisti rectius istis,
Candidus imperti: si non, his utere mecum."
HORAT.

In the treatment of tubercular phthisis, so much the most mortal of all diseases, no one need apprehend that he shall add unnecessarily to his means of giving relief.—I am, sir,

Your obedient servant,
CHARLES SCUDAMORE.

Wimpole Street, Feb. 3, 1840.

MEDICAL GAZETTE.

Friday, February 7, 1840.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

MANAGEMENT OF THE POOR IN SCOTLAND.

SOME months ago, in an article on the state of the poor of Glasgow, we expressed our opinion, that the trifling exertions made for the relief of sickness in that city, were totally inadequate to their object; and that since voluntary subscriptions had failed so completely, it would be necessary to have recourse to a compulsory assessment*.

Our convictions are painfully confirmed by a judicious and well-written treatise now before us†, in which Dr. Alison shows, with a clearness approaching to mathematical demonstration, that the provision made for the relief of indigence in Scotland is shamefully small; that the theories of the economists concerning the measure of assistance to be doled out to the poor, are there to be seen in their practical working; and, that in consequence, the rate of mortality in Scotland's two chief cities is much greater than that of London, and the mass of unrelieved misery throughout the country is far beyond that of any well-regulated state.

Many humane persons who have been taught to consider the Scottish system of relief as the perfection of human wisdom, will be astounded and mortified by Dr. Alison's statements; and when they learn that women who have worn out their constitutions in field-labour at eight-pence a day, starve through the sad

* MEDICAL GAZETTE, Sept. 7, 1839.

† Observations on the Management of the Poor in Scotland, and its effects on the health of the great towns. By W. P. Alison, M.D. F.R.S.E. Fellow and late President of the Royal College of Physicians, Edinburgh, &c. Edinburgh and London, 1840.

remnant of their existence on a parish-allowance of a shilling a week, with occasional scraps from the charitable, they will doubt whether the English Poor Law, even when most carelessly administered, was the worst of evils, or whether an old English workhouse was the most shocking of nuisances, even though the inmates *had* plum-pudding on Christmas day. Such persons, however, will read and be convinced, for the facts are too numerous and well-attested to admit of doubt when humanity and the love of truth guide the investigation. The benevolent, therefore, however grieved by the picture drawn by Dr. Alison, and which we shall exhibit in miniature, will not only allow that it is correct, but that it demands a speedy and substantial alteration. But there is another class of persons who "believe practically that the poor and luckless are here only as a nuisance to be abraded and abated, and in some permissible manner made away with, and swept out of sight*." Or, as Dr. Alison expresses himself: "I am quite aware that there are many persons who consider this question as merely one of pounds, shillings, and pence; and think *that* the best system for the relief of the poor, which draws the smallest sums from the pockets of the rich, and gives the least disturbance to the tranquillity of their enjoyments, and most expeditiously removes from their sight the 'nuisance of street-begging.' That such persons are grievously mistaken as to the ultimate result of such a system on the happiness and prosperity of all ranks of a nation, will, I think, appear distinctly from facts to be afterwards stated. But at present I do not address myself to such men. They will find their tastes consulted by many other authors†."

We, too, in our present observations, shall follow the example of Mr. Carlyle, and Dr. Alison, and shall consider the poor as fellow-creatures to be relieved, and not as unpleasing objects to be swept away from the field of vision. Dr. Alison prefaces his excellent work by a kind of apology for having written it, and seems to fear that some will think he has undertaken a subject beyond his province. To us this deprecation of censure seems unnecessary. It was the just boast of Walter Scott that he was intimately acquainted with every rank of Scotsmen from the peer to the peasant; and an eminent physician, whose visits have been long welcomed in the mansions of Scotland's proudest nobility, as in the wynds inhabited by Scotland's poorest artisans, may well claim a similar distinction. It is not only the clear right but the agreeable duty of such a man to act as the interpreter between distant classes; to explain to the poor that those whom they imagine to be imparadised in purple and fine linen are not always supremely blessed; and, still more, to prove to the lords of hill and valley, that poverty is not a crime, and that to leave the indigent to their own resources is not a sure receipt to make them happy. The quarrels of classes, like those of individuals, are well-defined by the word *misunderstandings*; half the world, says Miss Edgeworth, does not know how the other half lives: and were not a poet, a physician, or a philanthropist, occasionally to start up, the rookery of St. Giles's, or the Wynds of Glasgow, would be more strange to the well-dressed public than the Canton of Berne. Thus, for example, it is a common opinion among those who are not acquainted with the condition of the poor, that the use of intoxicating liquors is the chief cause of distress among the common people, and even of the high rate of mortality in Edinburgh and Glasgow. But though Dr. Alison readily allows that it is a secondary and

* Chartism, by Thomas Carlyle, p. 18.

† On the Management of the Poor in Scotland, p. 60.

immediate cause of disease and death, yet he gives several strong reasons against its being the fundamental and primary one. Among others he cites the great mortality of young children, who do not drink spirits; and there is the same excess of mortality among the indigent in southern climates, where intoxication is not common. Moreover, the hasty observer is apt to confound cause and effect, and to suppose destitution to have been caused by liquor in cases where, in sad truth, misery had tempted its victim to drown his cares in drink. When the Antiquary, in Scott's novel, expresses a wish that all the distilleries had stopped working, the fisherman's wife replies, that abstinence from whisky is easy enough for him, but not quite so easy for one who finds himself without meat, or clothes, and with just twopence in his pouch. Nevertheless, it must be owned, that spirit-drinking has reached a frightful height in some of our great towns; nor is our alarm diminished by the reflection that the evil originates in misery, and reproduces its cause, thus continuing a vicious circle for ever.

Let us now consider Dr. Alison's proofs and conclusions in an orderly manner. The first point which he discusses is the increase of destitution and suffering in Edinburgh. The records of the Society for the relief of the destitute sick, and of the Royal Infirmary, both show an augmentation of cases demanding succour. Indeed, in the Royal Infirmary, the mortality has gradually risen from about 1 in 20 to 1 in 8, from the increased severity of the diseases which drove the patients there. The House of Refuge was founded in 1832, when it was called into existence by the cholera alarm, and it admits more than 1600 persons annually.

From various causes the expenditure of the higher classes in Edinburgh has declined, as proportioned to the increasing population. Then, Edinburgh is an assessed district, and the poor are attracted to it from the unassessed parishes of Scotland; and when to this we add the immigration of Irish, it is no wonder that the condition of many of the poor, especially in the winter, resembles that which has long been contemplated with horror in Dublin and other Irish towns. The witnesses to this fact, so strange if we listened to the panegyrists of the Scotch system, but so natural if we listen to common sense, are of high character and indisputable authority. Thus the Rev. Dr. Lee, minister of the Old Church, when giving his evidence before the Commissioners of Religious Instruction, Feb. 18, 1836, spoke as follows of the state of a part of the Old Town:—"I have seen much wretchedness in my time, but never such a concentration of misery as in this parish. Some of the Irish in it are very wretched, but by far the most wretched are Scotch. I have seen a mother and five daughters with another woman, in a house where there was neither chair nor table, stool, bed, or blanket, nor any kind of implement for cooking. She had the largest allowance given by the Charity Workhouse, 2s. 6d. a week." "I frequently see the same room occupied by two married couples, neither having a bed." "I have been in one day in seven houses where there was no bed, in some of them not even straw. I found people of 80 years of age lying on the boards*." Mr. Tait, surgeon and Commissioner of Police, wrote a pamphlet to shew that the diffusion of fever in Edinburgh depends rather on causes within it, than on the irrigation of the meadows in its neighbourhood with foul water. After mentioning a flat situated in Foulis' Close, with dunghills indoors, he tells us that this close is in many respects superior to Blackfriars' Wynd!

* On the Management, &c. p. 11—12.

Dr. Kay and the late Dr. Hennen give similar testimony; and no doubt can be left in the mind of any impartial reader that the poor of Edinburgh require more and kinder superintendence than they obtain. Most persons, indeed, when they read the accounts of the state of the poor in our great towns will be inclined to coincide with Mr. Carlyle in the opinion which he expresses with his usual force and quaintness, "that *Laissez-faire* has as good as done its part in a great many provinces; that in the province of the working-classes *Laissez-faire* having passed its new poor-law, has reached the suicidal point, and now, as *felo-de-se*, lies dying there, in torch-light meetings and such like; that, in brief, a government of the under classes by the upper, on a principle of *Let alone*, is no longer possible in England in these days*." In other words, the maxim of *Laissez-faire*, leave the poor to their own resources (the cant phrase of the economists) is bad in all its consequences; fierce discontent and wasting disease are among its inevitable results. Bad as Spitalfields and St. Giles's may be, either they are superior to the corresponding districts in Edinburgh, or they bear a smaller proportion to the healthy parts of the town; or, which is also probable, the condition of the poor, even in the more tolerable parts of Edinburgh, is worse than in London. At any rate, the mortality in London in the year from July 1837 to July 1838 was 1 in 35 and a half, while in Edinburgh, from May 1837 to May 1838, it was 1 in 29 and one-fifth. Moreover, for many years past contagious fever has never been absent from Edinburgh; and in the last twenty-two years there have been three great epidemics, each lasting nearly three years. The number of fever patients admitted into two hospitals at Edinburgh was, from

Nov. 1817—20	3090
Nov. 1826—29	4318
Oct. 1836—39	4850

These large and increasing numbers to the medical reader can scarcely require a comment; they speak of a state of destitution otherwise beyond all belief, and afford a dreadful example of the workings of the *Laissez-faire* system.

We shall shew in another article with what obduracy the effectual relief of the poor is refused in Edinburgh, and learn to prize with still warmer esteem the 43d of Elizabeth.

* Chartism, p. 49.

LIVERPOOL MEDICAL ASSOCIATION.

It may not be uninteresting to our readers to mention, that a Medical Association, on an extensive scale, has been formed in the town of Liverpool, having for its object the advancement of medical science, and the cultivation of friendly intercourse amongst the members of the profession. A valuable medical library has existed above half a century in the town, and now contains many thousand volumes, and a Medical Society has also been for some years in active operation. The new institution has arisen out of these, and already numbers 130 members. A short time ago the profession came forward liberally, and erected an elegant building on ground bestowed by the corporation, containing under its roof the library, lecture, and museum rooms, and a handsome room for the ordinary meetings of the association, which are held once a fortnight for carrying out the objects in view.

DEATH OF PROFESSOR BLUMENBACH.

Dr. Blumenbach, the celebrated natural philosopher and professor at Göttingen, died in that University on Wednesday, the 22d instant, in his 88th year. In 1826 he celebrated the 50th anniversary of his professorship. He was for more than fifty years one of the ornaments of the University, but has for some years been dead to science, so that the University now loses only his illustrious name.

NOTE FROM MR. KEY.

To the Editor of the Medical Gazette.

Sir,

The assurance from "a member of the Council," that the question of election is under the consideration of that body, cannot but afford great satisfaction to every member of the College of Surgeons. The pleasure that his letter gave me has been somewhat lessened by his avowal, that he does not see the extraordinary position in which the College is placed. I hope, for the sake of the College and of its members, that his eyes may be opened before it is too late.

Your obedient servant,

C. Aston Key.

Feb. 4th, 1840.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, January 28, 1840.

Sir B. C. Brodie Bart. in the Chair.

A Case of Disease of the Posterior Columns of the Spinal Cord. By Edward Stanley, F.R.S. Surgeon to St. Bartholomew's Hospital, &c. &c.

The author considers the case here related as worthy of being recorded as a well-marked example of disease strictly limited to the posterior columns of the cord, yet producing phenomena at variance with the doctrine of the distinct influences of the anterior and posterior columns of the cord on the faculties of motion and sensation.

The disease, which was not the result of any injury, commenced about three years before the patient's admission into St. Bartholomew's Hospital with impaired motion of the lower extremities, at first slight, but progressively increasing, so that at the time of his admission he could only succeed by a great effort in raising his legs from the ground while sitting in a chair. Before the patient's death the inability of motion became complete in each lower limb in its whole extent. In no part, however, was there any defect of sensation confessed by the patient, whether the skin was scratched, pricked, or pinched. On dissection after death, no signs of disease presented themselves except in the spinal cord. Here, contrary to the anticipations of the many persons by whom this case was observed (and much interest was excited with reference to it), no disease whatever was found in the anterior columns of the cord. An extensive change of structure and colour was, on the contrary, manifested in the posterior columns, from the pons to lower end of the cord. "The value of this case," says the author, "consists in the distinctness of its phenomena, being acknowledged by many competent observers to have been such as they are recorded."

Dr. Budd related a case where similar circumstances were observed: that is, in a patient who had caries of the spine, motion in the inferior extremities was lost, while sensation remained; and, on dissection, the anterior columns of the spinal marrow were found apparently sound, while the posterior, at the seat of disease, were softened and nearly fluid.

Mr. Shaw observed, that there were difficulties in the above cases which he did not pretend wholly to remove; but he begged to mention that recent investigations have shown, that it is not from the posterior columns of the spinal marrow that the posterior roots, the roots that confer sensation, arise. It is from another column, the lateral, that they, together with the sensitive root of the fifth cerebral nerve, originate*. Hence, if this view of the anatomy be correct, it is not so much to be wondered at, that sensation should remain entire when the posterior columns are destroyed.

Another point in the discussion arose. Mr. Cæsar Hawkins brought forward the question as to the powers of nutrition in a part being impaired from the destruction of its nerves. He illustrated his position, by referring to M. Magendie's experiments on the fifth pair of the brain, wherein inflammation and sloughing of the eye followed from dividing this nerve within the cranium, thus apparently showing, that the fifth pair superintends the functions of nutrition.

Mr. Shaw expressed some surprise at the ready admission usually given to M. Magendie's conclusions from these experiments, when surgeons have such frequent opportunities of observing the effects of destruction of the fifth pair in the human subject. He adverted to numerous cases that had come under his notice, where the fifth pair had been totally destroyed at its root by morbid changes, and where the sensibility and motion conferred by it were completely lost; and yet none of the effects described by M. Magendie were observed. The changes in the eye, he thought, might be satisfactorily explained by remembering the proneness of this part to inflammation, and attending to the natural consequences of its being deprived of sensibility. The sensibility in the conjunctival membrane of the eye is provided for the defence of its delicate structure; and when this is lost, foreign objects lodge between the eye-lids and inflame the eye, without causing pain. To show the im-

* See two papers by Sir Charles Bell in the Phil. Trans., read May 1834, and April 1835. Also his work on the Nervous System, 3d edition.

portance of this consideration, he referred to the case of a female who had dropping of the upper eye-lid (ptosis), combined with insensibility of the eye from affection of the fifth pair. This woman was for several years under his observation, and the eye continued all the time perfectly sound, owing, he presumed, to the organ being so completely protected by the eye-lid which covered it. In another case, where the ophthalmic branch of the fifth was wholly destroyed in its passage through the foramen lacerum, causing a total loss of sensibility in the surface of the eye, and where ptosis existed for a certain time, the eye was free from all signs of inflammation, as in the previous case. But after a considerable period, the portio dura became affected; so that the orbicularis oculi was paralysed; the lids, consequently, remained open, and the eye became exposed. Now, from that time, inflammation of the eye commenced; and its surface was finally covered by thick granulations, which protruded between the eye-lids.

Sir B. Brodie and Mr. Hawkins related cases in which disease, in one amounting to sloughing, of the parts above the little finger, followed after the excision of a portion of the ulnar nerve.

Mr. Stanley met the objections made to M. Magendie's conclusions, by referring to a case published by him in this journal, in which a patient had rapid destruction of the eye from sloughing of its textures; and it was found upon dissection, that the root of the fifth pair was involved in a tumor lodged upon the pons varolii.

Case of Extraordinary Dilatation of the Kidneys, Ureters, and Bladder, in consequence of a membranous fold in the urethra, which acted as a valve and prevented the free escape of urine from the bladder. By Dr. George Budd, Physician to the Seaman's Hospital, Dreadnought.

The subject of this case, a sailor, aged 16, was brought into the Dreadnought in a state of insensibility, and died there a few days after his admission. On examination after death, the kidneys were found dilated into large and circular, or lobulated and almost membranous pouches, each capable of holding a quart. The ureters were dilated to the size of a man's thumb; the dilatation ceased just as they entered the bladder, and the valvular arrangement at those points was so far perfect that no urine could be forced from the bladder into the ureters by pressure made on the former. The bladder was very large, and distended with urine; its muscular fibres extraordinarily developed, forming a thickness of muscular substance equal to that of the left ventricle of the heart, in the same subject. The cause of these changes was a membranous fold or valve, like the valve of a vein or one of the semilunar valves of the heart, which was attached to the upper surface of the urethra, immediately behind its bulb. The action of this valve was to prevent the escape of urine from the bladder; but no difficulty was experienced, either during life or after death, in introducing a No. 10 catheter. The urethra, anterior to the valve, was perfectly natural.

This case is singular from the great degree of dilatation, which was evidently owing to the circumstance that the obstacle by which it was occasioned was congenital. It shows that the solid form in which we usually find the kidney, though more convenient from its occupying less space, is not essential to its functions.

The weight of one of the kidneys was 6½ ounces, which is not much greater than the average weight of the kidney of a person of the age of this patient. The absence of hypertrophy of the substance of the kidney offers a striking contrast with the great hypertrophy of the muscular fibres of the bladder, produced by the same cause and attended with a like dilatation. In the latter case the hypertrophy resulted from the increase of muscular action, which was rendered necessary by the dilatation and by the obstacle which produced it.

On the Arrangement of the Intermediate Vessels on Surfaces secreting Pus, with a Note regarding the Vascularity of Articular Cartilages. By R. Liston, Esq. Surgeon to the North London Hospital.

The author proposed very shortly to describe the arrangement of the intermediate vessels on granulation, as they appear in the cysts of abscesses, and on open sores. "It will appear, he observes, on careful examination, that the abscess is coated on the interior and free surface by a layer of lymph of greater or less thickness, generally about one-tenth of an inch. This layer is first of all deposited in a fluid state—it is exuded in the form of minute transparent drops, which being spontaneously coagulable, gradually become milky and consistent. The granules appear to become first coagulated on the surface, and the interior of the drop remains for a while fluid and transparent." The author goes on to say that the layer so formed gradually becomes more consistent, and of a yellow colour, that it lies upon a highly vascular membrane, to which it adheres more or less intimately, and that the vessels in this tissue are curiously interlaced, anastomosing freely with each other, so as to form a delicate net-work. "There seems to be in the lymph," says the author, "an impulse, as it were, to organization, and after a very short time it becomes per-

meated by minute blood-vessels, which admit our fine injections."

"The arrangement of these capillaries in the granules on the free surface is distinctly looped in abscesses, &c." The latter fact was illustrated by drawings and diagrams, made by Mr. Dalrymple by the aid of the microscope. The only difference between the capillaries, as above described in the cysts of abscesses, and those at the surface of open sores, results from their being unsupported in the latter, by reason of which they become dilated and varicose, giving rise to the dark colour often seen in sores, and sometimes even undergoing positive rupture of their coats. The author proceeds to offer some practical deductions of high interest from the foregoing observations, chiefly with reference to the importance of position in the treatment of ulcers.

A short note is appended to the paper on the question of the vascularity of articulated cartilages, in which the author affirms the proposition, stating that he has "been enabled to demonstrate the existence of vessels most undeniably in the articular cartilage of several diseased joints." Sketches were shewn of these appearances.

WESTMINSTER MEDICAL SOCIETY.

Saturday, February 1, 1840.

DR. CHOWNE PRESIDENT.

Nervous Headache from Exhaustion, and its Treatment with Aconite. By THOMAS H. BURGESS, M.D.

AFTER some preliminary observations on the causes of the different varieties of cephalalgia, Dr. Burgess stated that there were two conditions of body which appeared to him to be intimately associated with that form of nervous headache under consideration. The one was characterised by general anæmia; the other, by the debility consequent upon nervous exhaustion.

The former obtains more particularly in individuals who lead a sedentary life, who are ill fed, and who live in a close, confined, and unhealthy atmosphere; but it is by no means confined to this class of society, for in the middle and upper ranks the same bloodless condition of the system is frequently induced by different but equally pernicious causes. In the latter classes females are particularly obnoxious to nervous headache, arising in a great measure from confinement and want of bodily exercise during youth; and this predisposition to the complaint "grows with their growth," if not checked in time, and finally renders them liable to distressing attacks of cephalalgia, on every, even the slightest, provocation. The countenances of these individuals (continued the author) are quite characteristic—the eyebrows are depressed, the eyes are sunk and lack-lustrous, the cheeks are blanched, the lips are bloodless, and the entire face wears the aspect of depression, and denotes an incapability of action. The favourite position of persons so affected is sitting with the head leaning upon the hand, being glad of the soothing effects of the support and pressure obtained by this means. Before breakfast, and in the forenoon, are the periods they are most usually attacked.

After describing the nature of the pain, and the procession of symptoms commonly observed in these cases, Dr. Burgess went on to say, that debility consequent upon nervous exhaustion, the second condition of body mentioned as associated with nervous headache, is by far the most fruitful source of the complaint. The *moral* exciting causes of this state are numerous. Anxiety, affliction, dissipation, grief, despondency, mental fatigue, disappointment, sudden reverse, despair, &c. in short all the passions which tend to depress the vital powers, induce a state of nervous exhaustion. Individuals of more advanced years than the former class (observes the author) of the nervous temperament, and of a high state of sensibility, are those who suffer most frequently from this variety. They describe the pain, in severe cases, as racking and exhausting, with occasional acute twitches, and excruciating exacerbations, which are generally induced by motion, by sound, or by increase of light. There is also vertigo or giddiness, the sight is dim and confused, and black spots are seen rolling before the eyes; they are wholly incapable of mental or bodily exertion; they are sad, morose, and irritable in the extreme, and seek in repose and in solitude for an alleviation of their sufferings. The countenance of the patient is expressive of the most supreme misery. It indicates melancholy and despondency, and sometimes even assumes a suicidal aspect, and this outward and visible picture is but too often a faithful indication of the state of the feelings and emotions of the mind. Harrassed by a succession of gloomy thoughts, abject fears, and dread of madness, the martyr to nervous headache frequently experiences in the paroxysms of the complaint, an overwhelming sensation of weariness of life, and feels as if the only relief to be obtained from his afflictions was to be found in the oblivion of the tomb. The workings of the moral feelings are stamped upon the countenance; and in acute attacks, the drooping of the head and features, the furrowing of the cheeks, and the dragging of the commissures of

the lips and eyelids, heighten the picture of wretchedness.

Treatment—The author begged leave to introduce to the notice of the society a drug, the extract of aconite, which he found for several years past of the most incalculable service in the treatment of cephalalgia. It was not his object to extol this remedy as a specific in the complaint; he merely wished to draw the attention of members to the subject; and those who wished, could, with little trouble, put his statements to the test, and judge for themselves of the real value of the medicine, in cases similar to those which he had the honour of relating to the society. Dr. Burgess stated that he found the beneficial effects of the aconite materially promoted by the prior administration of the aloes and myrrh pill, in a small dose, so as to open the bowels gently, and encourage their peristaltic action; at the same time he took occasion to observe that he agreed with Dr. Copland that the digestive organs were considered much too generally as the source of the disorder. He also strongly recommended, in cases of young females, kalisthenic exercises, commencing with the gentlest, as urged by Mercurialis, and attention to the quality as well as to the quantity of the food.

The author stated that he usually commenced with half grain doses of the fresh extract, repeated every two or three hours. The preparation, by being kept for any length of time, loses, in a great measure, its remedial powers, and becomes black; hence, the dark colour of the extract commonly found in the shops. After noticing the different effects produced by this drug on the system, and the relative advantages of the alcoholic and watery extracts, the author concluded, by relating three cases of nervous headache, successfully treated with aconite.

EFFECTS AND MODE OF APPLICATION OF REMEDIES.

On measurement of medicine in private houses.—It often happens that a fluid medicine which the practitioner intends to be taken in the course of two days, is finished before the conclusion of the first, or *vice versa*. The different sizes of spoons, glasses, and indeed of all household utensils, render them most uncertain and unsuitable measures for medicines; and yet they are those most commonly employed. I have carried the following plan into effect, and find it easy of application, and perfectly intelligible to patients. The entire mixture is directed to be divided into a certain number of equal parts by marks on the side of the bottle, which being usually of the same diameter from top to bottom, is readily done by a strip of paper affixed at one side, on which the divisions may be marked with a pen. Thus when a sixth or a fourth part of a given quantity is ordered, there is as great a certainty of the proper dose being taken as there is in the quantity of the ingredients of which it is composed, which are now all measured by means of glass vessels with marks on their sides.

A tasteless form of ipecacuan.—When it is desirable to administer ipecacuan to refractory children, or to persons to whom the vinum ipecac. is particularly odious, as is often the case, the following form will be found to answer.

℞. Rad. Ipec. contus. ʒss.; Aq. bullient. q. s. ut f. colat. ʒiss.; Adde Syrupi Limon. ʒss.; Sum. partem 12 ♏. 3tiis horis.

Dr. Osborne in Dublin Journal.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Jan. 30, 1840.

T. Balman, South Molton, Devon.—J. S. Rodd, Evesham, Worcestershire.—Henry Waldron, Wellington, Somersetshire.—Stephen Moyce, Magdalen, Norfolk.—W. J. Dunsford, Swindon, Wilts.—F. H. Waller, Faversham, Kent.—R. Vincent.

WEEKLY ACCOUNT OF BURIALS.

From BILLS of MORTALITY, *Jan.* 28, 1840.

Age and Debility	39	Heart, diseased	2
Apoplexy	4	Hooping Cough	5
Asthma	15	Inflammation	12
Cancer	2	Bowels & Stomach	1
Childbirth	1	Brain	3
Consumption	39	Lungs and Pleura	3
Convulsions	25	Measles	5
Dentition	3	Mortification	2
Dropsy	4	Paralysis	1
Dropsy in the Brain	4	Small-pox	1
Erysipelas	2	Tumor	1
Fever	7	Unknown Causes	63
Fever, Scarlet	5		
Fever, Typhus	1	Casualties	6

Increase of Burials, as compared with the preceding week . . . 67

METEOROLOGICAL JOURNAL.

Jan.	Thermometer.	Barometer.
Thursday . 23	from 37 to 54	29·82 to 29·56
Friday . . 24	50 55	29 34 28·84
Saturday . 25	36 42	29·19 29·38
Sunday . . 26	37 53	28·94 28·92
Monday . . 27	33 43	29·39 29·58
Tuesday . . 28	33 51	29·44 29·17
Wednesday 29	42 45	29·36 29·75

Prevailing wind, S.W.

Except the 27th, generally cloudy, with frequent and heavy showers of rain. Wind very boisterous on the 23d and following day. Lightning in the S.E. and S.W. on the evening of the 26th.

Rain fallen, 1 inch and ·45 of an inch, of which ·5625 fell between 8 and 11 o'clock on the morning of the 26th.

NOTICE.—We are unavoidably compelled to postpone the report of the meeting at Newcastle-upon-Tyne.

MONTHLY LIST

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, Feb. 4, 1840.)

	Price.			Duty.		Duty Paid.	
						In 1839 to last week	Same time last year.
	£ s. d.	£ s. d.		s. d.			
Aloes, Barbadoes, D.P. c	15 0 0 to	30 0 0	B.P. lb	0 2			
Hepatic (dry) BD..... c	5 0 0	10 0 0	F. lb	0 8		9,221	15,431
Cape, BD. c	3 10 0	3 14 0					
Anise, Oil of, German, D.P.... lb	——	——	F. lb	1 4		254	423
E. I. ..... lb	0 5 0	0 5 6	E. I.	1 4		122	——
Asafœtida, B.D. c	1 10 0	3 10 0	c	6 0		8	9
Balsam, Canada, D.P. ..... lb	0 1 0	0 1 1	lb	0 1		1,756	1,060
Copaiba, BD. ..... lb	0 2 6	0 3 0	c	4 0		35	48
Peru, BD. ..... lb	0 4 6	——	lb	1 0		——	——
Benzoin (best) BD..... c	25 0 0	50 0 0	c	4 0		3	21
Camphor, unrefined, BD..... c	13 10 0	——	c	1 0		76	13
Cantharides, D.P. ..... lb	0 3 6	0 4 0	lb	1 0		1,647	4,194
Caraway, Oil of, D.P. ..... lb	0 8 0	0 8 6	lb	4 0		420	106
Cascarilla or Eleutheria Bark, D.P.C.	3 10 0	——	lb	0 1		368	——
Cassia, Oil of, BD..... lb	0 7 0	——	lb	1 4		323	320
Castor Oil, East India, BD..... lb	0 0 4	0 0 10	c	1 3		621	412
West I. (bottle) D.P. 1½ lb	——	——		——			
Castoreum, American ..... lb	0 17 0	0 18 0	lb	0 6		63	353
D.P. Hudson's Bay ..... lb	0 18 0	1 0 0					
Russian..... lb	none						
Catechu, BD. Pale c	1 1 0	——	c	1 0		4,011	4,833
Dark	1 7 0	——					
Cinchona Bark, Pale (Crown)..... lb	0 2 0	0 3 6	lb	0 1		4,806	4,703
BD. Red ..... lb	0 2 0	0 4 0					
Yellow ..... lb	0 4 0	0 4 4					
Colocynth, Turkey ..... lb	0 1 6	0 2 9	lb	0 2		515	398
D.P. Mogadore ..... lb	0 1 0	——					
Calumba Root, BD. c	0 12 0	1 15 0	lb	0 2		1,048	725
Cubebs, BD. c	2 10 0	——	lb	0 6		4,433	6,672
Gamboge, BD. c	5 0 0	15 0 0	c	4 0		——	2
Gentian, D.P. c	1 6 0	1 8 0	c	4 0		27	137
Guaiacum, D.P..... lb	0 1 0	0 3 0	c	6 0		——	2
Gum Arabic, Turkey, fine, D.P... c	11 0 0	——					
Do. seconds, D.P. .. c	7 10 0	——	c	6 0		754	691
Barbary, brown, BD. c	1 17 0	1 18 0					
Do. white, D.P..... c	5 10 0	——					
E. I. fine yellow, BD. c	2 5 0	2 14 0	c	6 0		496	880
Do. dark brown, B.D. c	1 15 0	2 5 0					
—— Senegal garblings, D.P. c	3 6 0	——	c	6 0		2,116	1,523
—— Tragacanth, D.P. c	8 0 0	12 0 0	c	6 0		——	——
Iceland Moss (Lichen), D.P. .... lb	0 0 2½	0 0 3	lb	0 1		——	——
Ipecacuanha Root, B.D. ..... lb	0 1 6	——	lb	1 0		1,606	784
Jalap, BD. ..... lb	0 2 2	——	lb	0 6		6,991	4,450
Manna, flaky, BD. ..... lb	0 3 6	0 4 0	lb	0 3		1,642	1,709
Sicilian, BD. ..... lb	——	——					
Musk, China, BD. ..... oz	1 0 0	2 0 0	oz	6 0		111	76
Myrrh, East India, BD. c	5 0 0	14 0 0	c	6 0		11	49
Turkey, BD..... c	2 0 0	11 10 0					
Nux Vomica, BD..... lb	0 8 0	0 9 0	lb	2 6		——	——
Opium, Turkey, BD. ..... lb	0 10 0	——	lb	1 0		4,738	5,070
Peppermint, Oil of, F. BD..... lb	0 15 0	——	lb	4 0		545	139
Quicksilver, BD. ..... lb	0 3 10	——	lb	0 1		29,881	9,525
Rhubarb, East India, BD..... lb	0 3 0	0 6 0	lb	1 0		2,765	4,713
Dutch, trimmed, D.P. lb	0 4 0	0 8 0	F. lb	1 0		4,258	879
Russian, BD. ..... lb	——	——					
Saffron, French, BD. ..... lb	0 17 6	0 17 6	lb	1 0		515	470
Spanish ..... lb	0 16 0	0 17 6					
Sarsaparilla, Honduras, BD..... lb	0 1 0	0 1 9	lb	0 6		10,519	3,492
Lisbon, BD. ..... lb	0 2 0	——					
Scammony, Smyrna, D.P..... lb	——	——	lb	2 6		778	1,563
Aleppo ..... lb	0 18 0	1 0 0					
Senna, East India, BD. ..... lb	0 0 3	0 0 4	E.I. lb	0 6		6,924	8,672
Alexandria, D.P..... lb	0 1 6	0 1 8					
Smyrna, D.P. ..... lb	0 1 0	0 1 3	Other sorts	0 6		5,414	18,574
Tripoli, D.P. ..... lb	0 1 0	0 1 3					

‡§‡ BD. In Bond.—c. Cwt.—B. P British Possessions.—F. Foreign.—D. P. Duty paid.

A TABLE OF MORTALITY FOR THE METROPOLIS,

Showing the Number of Deaths from all Causes, registered in the Four Weeks ending Feb. 1, 1840.

Causes of Death.	January 1840. 5th—11th.	12th—18th.	19th—25th.	26th—1st Feb.	Weekly Average, 1838.
Small-Pox	8	3	8	12	73
Measles	18	20	10	17	11
Scarlatina	48	51	45	31	29
Hooping Cough	17	21	37	30	40
Croup	7	5	8	3	7
Thrush	7	4	3	8	6
Diarrhœa	4	5	6	6	8
Dysentery	..	1	2	2	2
Cholera	..	..	..	1	.3
Influenza	..	3	3	3	1
Typhus	25	27	30	28	78
Erysipelas	9	3	5	4	8
Syphilis	1	1	..	..	1
Hydrophobia	..	..	..	..	.2
Total	144	144	157	145	265
Cephalitis	9	11	12	10	10
Hydrocephalus	35	36	31	33	34
Apoplexy	23	13	26	19	19
Paralysis	13	21	19	10	14
Convulsions	64	56	54	44	67
Epilepsy	3	3	3	3	4
Insanity	2	2	..	1	1
Delirium Tremens	1	1	3	2	1
Dis. of Brain, &c.	11	16	8	11	6
Total	161	159	156	133	156
Quinsey	1	2	1	2	2
Bronchitis	8	7	22	8	8
Pleurisy	2	1	..	2	2
Pneumonia	79	90	69	64	71
Hydrothorax	14	16	11	1	6
Asthma	45	66	54	45	28
Consumption	140	166	127	139	146
Dis. of Lungs, &c.	18	25	18	15	10
Total	307	373	302	276	275
Pericarditis	..	2	1	1	.3
Aneurism	..	..	..	1	.5
Dis. of Heart, &c.	13	28	21	16	15
Total	13	30	22	18	16
Teething	17	18	16	11	15
Gastritis – Enteritis	12	15	13	11	17
Peritonitis	1	..	1	..	1
Tabes Mesenterica	4	3	2	5	3
Ascites	..	2	3	..	.4
Ulceration	2	..	3	3	1
Hernia	3	2	3	..	2
Colic or Ileus	5	..	1	1	4
Dis. of Stomach, &c.	10	5	6	5	4
Hepatitis	1	1	2	2	1
Jaundice	..	3	1	1	2
Dis. of Liver, &c.	7	2	3	7	7
Total	62	51	54	46	57

Causes of Death.	January 1840. 5th—11th.	12th—18th.	19th—25th.	26th—1st Feb.	Weekly Average, 1838.
Nephritis	..	..	..	2	.5
Diabetes	..	..	1	1	.4
Stone	..	..	2	1	.4
Stricture	1	..	2	..	.6
Dis. of Kidneys, &c.	4	3	2	2	3
Total	5	3	7	6	5
Childbed	2	6	7	11	8
Ovarian Dropsy	..	..	..	..	.3
Dis. of Uterus, &c.	3	1	2	2	2
Total	5	7	9	13	10
Rheumatism	5	1	1	4	4
Dis. of Joints, &c.	3	7	6	4	4
Total	8	8	7	8	8
Ulcer	..	2	1	..	.4
Fistula	..	..	1	..	.4
Dis. of Skin, &c.	1	..	2	..	.4
Total	1	2	4	..	1
Inflammation	7	5	5	10	18
Hæmorrhage	2	2	2	5	4
Dropsy	38	39	32	36	34
Abscess	3	2	2	2	4
Mortification	8	3	3	4	4
Scrofula	1	4	2	..	1
Carcinoma	12	4	9	6	6
Tumor	1	2	..	..	1
Gout	1	..	..	1	1
Atrophy	2	1	9	..	4
Debility	24	24	17	23	12
Malformations	1	..	..	..	1
Sudden Deaths	13	17	15	22	12
Total	113	103	96	109	102
Old Age, or Natural Decay	105	91	76	61	79
Intemperance	..	..	..	..	.4
Privation	2	..	..	1	.6
Violent Deaths	34	26	21	15	25
Total	36	26	21	16	26
Causes not specified	6	..	5	4	13
Deaths from all Causes	967	997	916	835	
Weekly Average, 1838	..	..	..	..	1013

January, 1840.	AGES. 0—15.	15—60	60 & upwards.
5th—11th	404	332	230
12th—18th	392	361	244
19th—25th	384	302	236
26th—1st Feb.	360	291	182
Weekly Average, 1838	466	352	192

Estimated Population, 1840.	Jan. 5th—11th.	12th—18th.	19th—25th.	25th—1st Feb.	Weekly Average, 1838.
West Districts, 308,920	149	160	122	108	156
North Districts, 414,458	171	170	163	157	172
Central Districts, 369,722	199	230	182	187	208
East Districts, 411,635	225	216	207	200	239
South Districts, 450,265	223	221	242	183	238
1,955,000	967	997	916	835	1013

WILSON & OGILVY, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, FEBRUARY 14, 1840.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.
Surgeon to the St. Marylebone Infirmary.

Gun-shot Wounds, *continued. Amputation?—Time of Amputating?*
Tetanus. *General Characters—Symptoms—Pathological Appearances — Prognosis — Treatment.*
Burns. *Varieties—Symptoms—Prognosis—Treatment.*

Other cases may render amputation necessary: a violent inflammation succeeds to a wound; it does not proceed to mortification, but it occasions large abscesses, which destroy the periosteum, and denude the bone to a considerable extent; and this, unfortunately, is not a very rare complication; the patient is exhausted, phlebitis may be developed; abscesses may be found in the lungs, the liver, and the spleen, as well as in different joints, and the patient dies. To prevent these consequences, amputation should be performed above the point where the bone is denuded. If you amputate below the point, leaving a denuded bone in the midst of your stump, suppuration will probably proceed after the operation, as it did before. Neither, in such cases, should amputation be delayed too long; for if the patient be much broken down, there is less chance of a good stump. Some persons, however, advocate the doctrine that feebleness in the patient is one condition of success in surgical operation. My opinion, as I have already expressed it, is totally opposite to that. I do not mean to say that I have not seen amputations succeed in persons broken down by suppuration and suffering; but I have certainly known a large number of failures.

In some cases inflammation may not proceed so far, but yet it is considerable; it is kept up by spiculæ of bone which could not be removed; these spiculæ become necrosed, purulent matter surrounds them, they open upon the surface, and fistulous canals are established. If the patient be not broken down, we may have hope to save him by amputation, or by cutting down freely and removing the spiculæ. These being extracted, we place the limb in a fracture apparatus, and the patient may get well, though the limb may be crooked or shortened. But if the patient be very feeble, it would be useless to attempt to extract the spiculæ, or to treat the case like a fracture, because the patient cannot bear up against a two or three months' suppuration; amputation is therefore necessary.

The excessive pain which sometimes remains after such wounds, may cause it to become a question whether amputation should be performed. Patients will sometimes insist upon the removal of a limb; should you yield to them?—I think not; they very often do badly. In all cases where the life of the patient is not endangered by preserving the limb, I do not think you ought to perform an operation which may endanger his life. Many cases are presented where such pains have yielded to improbable means. Bleeding, baths, and all probable means of relief may fail. Marjolin mentions the case of the Duke of Valmy, who had his left leg fractured at the battle of Marengo, and for a long time had excessive pains in the limb. Every conceivable means were tried and failed. In his agony one day he kept the leg before a large fire until vesication extended over some part of it. His pains

were abated for a fortnight, and when he felt them again, he resorted to the same means, and with the same success.

Some persons will urge you to amputate because the limb is ankylosed in an inconvenient position. If we think it right to object to amputate when there is pain and deformity, and when the limb is useless, for much stronger reasons should we object when there is simple ankylosis, unless the position be very inconvenient.

Time of Amputating.—A very important question still remains to be considered—at what time should amputation be performed? A person is presented to you with a recent wound, bad enough to require amputation—should it be done at once, or should you wait one, two, or three weeks before it is done? Many years ago this question possessed more interest than probably any in the whole compass of surgery; and men's minds were much divided upon it. The advocates of immediate amputation based their practice on the following motives:—First, when a person is just wounded, he is, in most cases, sensible of his critical state, and aware of the probable necessity of amputation; second, his health, in most cases, is better than it is likely to be after many days of abstinence and suffering; third, immediately after the wound the periosteum and bone may have suffered little, but suppuration goes on, and they may be implicated to a greater or less extent. Therefore, say they, it is better to amputate immediately. Spite of these unquestionable advantages, many surgeons believe that immediate amputation is often not advisable; because, if we operate directly after a wound has been received, we take off some limbs which might have been cured without. That is, no doubt, true; but, what is the true value of the objection? If the operation be done by a good surgeon, he does it because he has no hope of saving the limb, but hopes by amputating to save life. No doubt he may sometimes make a mistake. A naval officer was wounded badly in both legs, amputation of one was ordered. The surgeon who performed the operation removed the one which was not condemned, whilst the other got well. However, such a fact does not prove that amputation is unnecessary, for twenty persons similarly wounded might have died. It is urged also, that, immediately after a wound, there is a state of stupor or torpor which is opposed to the performance of the operation. Very true, but how long does it last? Usually, for some hours; but as soon as this is passed, the time for operation is come. Those who advocate consecutive amputation maintain, that by following this plan they save a greater number of persons than by immediate amputation. We may put the question in this way—do a greater number of amputations succeed in secondary than in primary amputations? Thus examined, the question is certainly full of difficulties. If amputations were done at the same time, and as much as possible under similar circumstances, there would be less difficulty; but then the moral condition of the men will have great influence on the result. Among beaten troops the results of amputation will be very adverse; whilst, under in other respects similar circumstances, victorious troops will do well. Larrey states, that after the battle of Austerlitz he removed twenty arms at the shoulder-joint; nineteen were cured, and the twentieth died of meningitis!—This is a singularly fortunate result. If we compare the cases found in different authors, we cannot fail of feeling assured that a greater number of cases succeed after primary than secondary amputation. Look at the question in another point of view:—Take a given number of wounded men; how many will be saved if primary amputation be performed? how many if secondary? Certainly the greater number in the former case. Military surgeons of great authority say, if you perform immediate amputation you save seventy-five per cent. If you wait, eight or ten of the limbs may possibly be saved without amputation; but then, you may be certain that thirty or forty will die between the period of receiving the wound and that of secondary amputation, from the consequences of the injury; of the sixty or seventy who remain for amputation, twenty to thirty per cent. will be lost.

At Neubourg, Percy amputated immediately in 96 cases, 86 did well. Larrey succeeded in 12 out of 14 cases. During the war of Independence in America, in 1780, the French surgeons operated secondarily in a vast number of cases, most of whom died. The Americans pursued an opposite plan, and lost only a very small number. At Toulouse, in 1814, Guthrie cured 38 out of 47 immediate amputations; whilst of 51 cases where the operation was delayed, 21 had a fatal termination. At the attack on New Orleans, in 1814, of 45 immediate amputations 38 did well; whilst of 7 consecutive amputations only 2 did well. M. del Signore, a surgeon in the Egyptian army, says, that at the battle of Navarino, of 31 immediate amputations he only lost 1 patient; whilst of 35 secondary amputations he only saved 25. Compare now the results, and you at once see that the chances are greatly in favour of those who submit to immediate amputa-

tion. If it be necessary to perform secondary amputation, either because you were unaware of the gravity of the wound, or because the patient has not consented to primary amputation—when should it be done? If it be done merely to arrest secondary hæmorrhage, which you cannot restrain, either by ligature or compression, it may be necessary to do it after five, six, or eight days, if violent inflammation be not present in the limb, or acute traumatic fever; for if you amputate when there is much inflammation or strong fever, the operation rarely succeeds. Still in some cases it must be done, for the patient will die without it, "melius anceps quam nullum." Of twenty amputations performed under these circumstances, scarcely can you expect to save one. Yet the chance of saving one in twenty must not be neglected.

As a general rule you should not amputate when there is intense inflammation of the part, or you will expose yourself to the certainty, almost, of similar inflammation being developed on the stump; bad suppuration succeeds, the periosteum is detached, abscesses are formed, and burrowing to a great distance. Before you amputate in such cases, the inflammation must be lessened. When it is abated, if suppuration be still very abundant, and the patient is becoming exhausted, amputation must be at once performed. Sometimes many weeks pass before inflammatory action is sufficiently subdued to render amputation favourable; during this time how many die!

In a few words I will now point out the indications to be observed in the treatment of gun-shot wounds. It is useless to seek to heal these wounds by first intention; they must suppurate: the cases are extremely rare where such wounds heal by first intention. If the wound have a foreign body in it, it should be extracted whenever this can be done without doing more mischief than would be caused by its presence in the wound. These wounds are not often complicated with primary hæmorrhage; when it does occur, the vessel should be secured by tying both ends. Sometimes it is inconvenient or imprudent to tie the vessel at the injured part; it may then be tied at a distance. In many cases it is necessary to relieve strangulation by incising the aponeurosis at the part. No irritating topical applications should be made. Formerly, when these wounds were supposed to be poisoned, warm oil and various other things were introduced into the wound to neutralise it. Ambrose Paré seems to have been the first to proscribe such means. Cold water seems to be the best early application which can be made: it soothes pain; it prevents inflammation and tumefaction. Irrigation is often an extremely valuable way of applying cold. When inflammation supervenes, emollients do better for a short time, but they should not be long continued. Sometimes it is necessary, after many days, to cut down and remove spiculæ of bone or foreign bodies; sometimes amputation is necessary—under what circumstances we have already considered. When we attempt to save a limb, what happens? What must be done? If the wound be a bad one, the limb is deprived of motion, it cannot be extended; when there is fracture or injury to joints, this rigidity is greater; there may be partial, but not complete ankylosis. The cellular tissue around the joint having participated in the inflammatory action, becomes indurated, the fibrous tissue is inflamed and contracted, the flexor muscles are shortened, and the synovial fluid is secreted in small quantity. If the limb be left in this state, instead of using means to render it straight, and to prevent ankylosis, true ankylosis may occur. When articular surfaces are long maintained in the same position, a certain displacement seems to occur—an incomplete luxation. Then, when in consequence of a wound of the posterior muscles of the leg, or of white swelling, the limb has been strongly flexed for many weeks, the head of the tibia may be luxated more or less completely backwards. Similar effects may be observed in other joints. This rigidity may often be prevented by prudent occasional movements at the affected joint, frictions, and baths. When there is no longer inflammation or pain, douches are sometimes found very serviceable. Many deformities and many complications of gun-shot wounds might be discussed, but our time does not admit of our doing so. I must, therefore, refer you, for further information, to special treatises and courses of lectures upon the subject.

TETANUS.

Wounds, whether punctured, incised, contused, lacerated, gun-shot, or poisoned, as well as those consequent upon burns, may be followed by tetanus. It may arise spontaneously—may succeed to surgical operations. Samuel Cooper mentions two cases: one following castration; another amputation. Vidal describes two cases in which it followed the excision of cicatrices which had succeeded to burns in the head. Dentition in children sometimes excites it. Fournier mentions a case of a soldier, who had the last phalanx of a finger cut off; he dipped it in cold water to restrain the hæmorrhage, and tetanus supervened. This disease is characterised by permanent, painful, involuntary con-

tractions, alternately, more or less violent, constituting exacerbations and relaxations, but with no absolute remission. Although all wounds may excite the development of tetanus, punctured wounds affecting fibrous or aponeurotic tissues, or which incompletely destroy nervous filaments, seem particularly to excite the disease. This is so well known in certain of the islands on the American coast, that at Cayenne there is a law which condemns, with heavy penalties, the persons before whose doors the fragments of glass or other sharp bodies, capable of wounding the slaves' feet, are found. There can be no doubt that the development of the disease is much influenced by the moral condition of the patient, by his physical condition, the habitual use of stimuli, intestinal irritation from worms or other causes. But the active predisposing cause of tetanus seems to be a sudden transition from heat to cold. This influence is greatest when wounds are in full suppuration, and is often very remarkable on fields of battle, where a hot day is succeeded by a very cold night, with a north or north-east wind. Similar circumstances have been observed in hospitals, when currents have been directed upon the patient. Thus it is that tetanus is more frequently seen in spring than in summer or winter. Where the disposition exists, many things may excite the disease; a sudden unexpected noise, a call to arms, the sound of a gun fire, or of a church clock in the still night, has served to develop it. Men, during the first half of life, especially those of a nervous temperament, are much more exposed to the disease than women or old men. It has been said, that it more frequently affects women than men. This is an error like that of Aretæus, who believed that it was developed easier in old than adult men. It may be developed at any period of the cicatrization of wounds: sometimes it happens within three or four days; it may, however, occur within a few hours; at other times suppuration is perfectly established, and cicatrization is making progress; at others, cicatrization is completed. Often tetanus is preceded by restlessness, rigors, contractions of different parts of the muscular system. It does not at once affect the whole of the muscular system; it usually affects first a particular part of that system. It may seem to proceed from the wounded part, or may be manifested at a distance. When it sets out from the wounded part, a rigidity is felt there, which increases, and renders motion more and more difficult. To this rigidity is added painful contractions, and these are extended over more and more of the muscular system. In the greater number of cases, no matter where the wound may be, tetanus commences at a greater or less distance from it. Some think that the muscles of the pharynx first suffer, and that dysphagia is the earliest symptom. My own experience would induce me to differ from this; it would lead me to agree with Begin, who thinks that the disease is first manifested in the temporal and masseter muscles, at at least sixteen times out of twenty. The disease may be limited to this region for many days; but the time comes when it is propagated to the muscles of the neck, the limbs, and the trunk; and according as it affects different regions, it is distinguished by different terms. When limited to the jaw, it is termed *trismus;* when the flexors of the trunk and limbs are affected, so as to bend the body forward, it is termed *emprosthotonos;* when the extensor muscles are affected, so as to cause the body to rest upon the heels and the occiput, it is termed *opisthotonos*; and when one side of the body alone suffers, it is termed *pleurosthotonos*. Of these varieties trismus is most frequent; it precedes and almost always accompanies all the others; next comes opisthotonos; next emprosthotonos; and lastly, pleurosthotonos, which is very rarely seen. Larrey believed that wounds of the posterior parts of the body most frequently produced opisthotonos; those of the anterior parts of the body, emprosthotonos; whilst complete tetanus succeeds to wounds which have traversed both limbs. I know no evidence which supports this conclusion, and, therefore, it must rest on his authority.

Symptoms.—A rigidity about the jaw and difficult deglutition are the early symptoms of tetanus; the patient cannot open his mouth, speak, or swallow, and the attempt to swallow only serves to increase the suffering, by increasing the tetanic contractions; the rigidity extends to the muscles at the back of the neck; from thence to the back, and a semicircle is described by the back; by and by the abdominal parietes become as hard as a board; the muscles of the thorax do not suffer till later, but when they and the diaphragm become affected, respiration becomes difficult, and asphyxia is impending. The limbs are not frequently affected: when they suffer, the whole body is perfectly rigid. Urine and fæces do not pass. I know no instance of the stomach or heart being affected with tetanus. The intellect is usually unaffected; delirium is not common. Sensibility seems to increase with the progress of the disease, so that at last, the least noise or mental emotion excites a paroxysm. It is then that the shocks become very painful, from the unequal power of antagonist muscles: there is no longer sleep, fever is developed,

there is profuse perspiration, especially about the head, neck, and chest, the eyes are fixed, bright, and reddish, the face is sometimes red, sometimes pale, the features are contracted. Arrived at this state, a violent paroxysm ordinarily terminates life. Sometimes the patient seems to die of pure exhaustion. This termination sometimes happens in a few hours; usually it occurs about the second, third, or fourth day from the occurrence of the first symptom of rigidity. When the fourth day is passed, the danger is usually less urgent; the longer it lasts, the less is the danger; it then assumes a more chronic form. Still for many days after the fourth there is much danger, and though the violence of the symptoms be much abated, they may suddenly be renewed with as much intensity as ever. When tetanus does not terminate fatally, it is never cut short suddenly; the symptoms gradually subside, and it is long before they are dissipated. Samuel Cooper describes a case where the disease continued for five weeks, and at last terminated fatally. Paillard describes a case which lasted six weeks, but ended in the death of the patient.

Pathological Appearances.—The post-mortem appearances are extremely unsatisfactory; there seems to be a general desire to discover some pathological appearances in the spinal cord, but no constant or common change of structure has been made out; sometimes there is "softening," sometimes a plate of bony matter; sometimes hardening, sometimes reddish serum; generally congestion; but then in all such diseases, congestion exists in almost all organs; sometimes these pathological appearances are presented at one point of the cord, sometimes at another. Lombard and Lepelletier always look for intestinal worms as a cause; certainly these may often be found without as well as with tetanus. We know no uniform lesion in this disease, though the symptoms would warrant us in supposing that the central nervous system must be diseased; but whether in function or structure is what, in the present state of our knowledge, we cannot decide.

Chronic tetanus, although it affords more chances of cure than the acute variety, is still an excessively dangerous disease, commonly terminating in the death of the patient. Entire confidence cannot therefore be placed in that aphorism of Hippocrates, "Qui a tetano corripiuntur in quatuor diebus pereunt. Si vero hoc effugerint sani fiunt."

Those things under the influence of which tetanus seems to be produced, teach us nothing as to the manner in which it is excited; there is, consequently, no disease the etiology of which is less advanced than this.

Treatment.—Tetanus is a disease whose treatment has never been subjected to any certain and invariable rule, and yet there are few for which so many means, external as well as internal, have been employed. Bleeding, general and local, abundant and repeated; cupping along the entire length of the spine. Baths—warm, tepid, cold, sometimes prolonged, alkaline and vapour; douches of various kinds, mercurial friction carried to salivation; electricity, blisters to the wound as well as to various parts of the body; moxas, excision, incision and cauterization of the wound, as well as complete ablation of the part, have been tried. Internally opium, belladonna, aconite, stramonium, camphor, castor, musk, æther, valerian, digitalis, arnica, mercury, sudorifics, ammonia, carbonate of potash, acetate of lead, ipecacuanha, purgatives, turpentine, the bite of the viper, &c. The number of these means is a good evidence of the absence of any efficacious mode of treating the disease; and yet there is scarcely one of the means I have mentioned, in favour of which some example of success might not be cited. As tetanus seems to be dependent on such a multitude of causes, and as only empirical means of treatment are opposed to it, it is not surprising that its therapeutics are so little advanced. If we give vermifuge medicines to a person suffering from tetanus consequent upon the sudden suppression of transpiration; sudorifics to a person in whom it has been developed as a consequence of some depressing moral agency; opium to a vigorous sanguineous patient; hot or vapour baths to a person towards whose brain there is a "determination of blood," can we hope to succeed? The treatment must be deduced from causes, and if we at last succeed in the cure of this disease, it must be by that means. The local treatment consists according to the case; when there is strangulation, in relieving it by incision; if there be foreign bodies or spiculæ of bone, in extracting them; if there be fracture, to extract fragments, to round off projecting points, and to keep it exactly reduced. If nerves be only partially divided, the section should be completed. If suppuration be suppressed, irritants may be applied upon the wound to reproduce it; if there be much pain at the wound, narcotics should be applied; if much tension, leeches. The part may be completely destroyed or removed, but this plan is very rarely successful. Many eminent men hold, that the best mode of treatment consists in copious blood-letting from the arm, along the spine, and behind

the ears; not only for the good they do themselves, but in preparing the way for other means; these means, however, should not be carried to the extent of M. Pelletier, who took fourteen or fifteen pounds of blood in a few days; nor Lisfranc, who bled eight times, and applied 797 leeches. The patient should be placed in a dark room, where there is no noise, the temperature should be elevated and rendered relaxing by means of evaporation; the clothing should be warm; the patient should be kept in a warm or vapour bath for many hours. I have known the paroxysm kept off for hours in a vapour bath. Sedatives might be expected to answer well, but experience does not testify in favour of their efficacy. Narcotics, to blunt the sensibility, would seem to be indicated. In administering these remedies, you must watch that the dose is not carried too far; at the same time it must be borne in mind, that in tetanus and hydrophobia the sensibility is so exaggerated, that doses capable of producing narcotism in ordinary diseases, have no effect in these; and that to obtain decided effects, the dose must be increased sometimes to fifty, or even a hundred times. Dupuytren once gave an ounce of opium in three or four days, without lessening the intensity or progress of the disease. Although sedatives seem to be indicated, we have not found one which can be used with success; until we do, we must continue to use those which have the best effect; opium in large doses at first, say from five to ten grains, the effects of which should be kept up by smaller doses every two hours; aconite and stramonium in doses at first of three to six grains, the effects to be kept up as in opium, by frequent smaller doses. The constriction of the jaws, the difficulty and sometimes even the impossibility of swallowing, occasionally sometimes interfere with, or even completely prevent, the administration of food or medicine by the mouth, and make it necessary to throw them into the rectum. Or we may exhibit medicines by the skin: when we do this, after having removed the epidermis by means of warm water, or ammonia with lard, one, two, three, or four grains of the acetate, sulphate, or hydrochlorate of morphia, may be sprinkled upon it. Matteuci or Melloni says he has succeeded in averting, or altogether preventing paroxysms, by passing currents of galvanism upwards, from the inferior part of the spinal cord towards the brain; this plan should be tried in our own country. It is a humiliating confession to make, that probably more cases do well when left to themselves, than when treated by medical men. A soldier was affected by tetanus, in consequence of a wound he received at the battle of Wagram; by mistake he was conducted upon a carriage on the evacuation of Vienna. The surgeon who received him said it was useless to do any thing for him, as he must die. The symptoms subsided, and were entirely dissipated without the exhibition of any remedy. Briot, who describes the case, concludes thus, "May not the different results obtained from the many means opposed to tetanus lead to the belief, that in the small number of cures attributed to the means employed, nature herself was the true curative agent?" I heard not long ago, that a soldier of the Blues suffered from tetanus, and that the case did well, although none but the simplest means were employed. I believe there is now in the Westminster Hospital a case of tetanus, treated by belladonna, which is doing well. I might mention many more cases, which would fairly raise a doubt, whether the energetic system usually employed is not worse than useless.

BURNS.

Wounds succeeding to cold we considered under the article mortification; wounds from *heat*, or burns, we shall consider here. By a *burn* we understand an injury done to the living body by the more or less close contact of a heated substance. It, therefore, varies with the degree of heat of the substance, its nature, and the time during which it is kept near or in absolute contact with the living body. Thus those substances which burn rapidly, and which then enter into a state of fusion, such as phosphorus, sulphur, resins, occasion deep burns. Boiling water burns less severely than boiling oil, because the latter has a much higher boiling temperature than the former. Iron, heated to redness, burns more superficially than that which has a white heat. Some substances burn badly, because they adhere to the part; among these are melted sugar, or soapers' lees, and articles of dress. Those occasioned by alcohol, æther, or ignited gas, are often large, but ordinarily superficial. We may divide burns, as Heister and Callisen did, into four varieties, though our distinction will be different to theirs. We may have a burn in which there is only a more or less intense erythematous redness: it may proceed further, so as to raise the epidermis and produce vesication; still further, it may destroy the whole thickness of the cutaneous integument; and lastly, it may destroy much or all of the tissues of limb. All heated bodies are not capable of producing those several degrees. The rays of the sun are, in our climate, rarely capable of producing more than the first; sometimes, however, they occasion vesication. Boiling water

does not produce more than the second degree; but the application of a red-hot iron produces a yellowish eschar when the contact is momentary, a dry and black one if the contact be continued. The application of a moxa illustrates well enough these differences. At first the moxa produces a superficial redness; continue the application, and phlyctenæ are developed; still longer, and a yellowish eschar is the consequence. You must recollect, however, that, with the exception of the first, the different degrees do not exist alone. When the second degree is produced, it is accompanied by the first. When the third exists, you will find the first and second present. The characters of burns vary, therefore, with the degree of injury. In the first degree of this affection, the part is red, slightly tumefied, hot, and painful: in the second, to the former symptoms are added vesications, filled with a yellowish serum; these sometimes appear at the moment of the injury; sometimes the next day, or not until after two or three days: in the third degree, the parts present a gangrenous spot, sometimes black and charred, sometimes yellowish and soft: in the last degree, these black and charred masses may extend more or less through the whole thickness of the limb.

Symptoms.—The pain which accompanies burns is always very acute; usually it is more intense when the surface has suffered most, and when the epidermis is detached, than when the organisation of the part is destroyed. Where burns implicate a large surface, the pain is sometimes so violent as to produce convulsions, or even tetanus. At other times, the pulse becomes frequent, the tongue red, and gastro-intestinal irritation may be developed. When the head is the seat of the disease, the irritation may extend to the brain, may determine sleeplessness, delirium, convulsions, coma, and death. When the chest or abdomen are implicated largely, violent fever may be lit up, or the serous coverings of these cavities may become inflamed; and occasionally, in the limbs, the synovial surfaces become inflamed. In these extensive burns, even if the early symptoms be subdued, the patient may die from the twenty-fifth to the fortieth day from profuse suppuration. It is said that, in those cases where the surface affected is so great, and the pain so intense, as to produce death suddenly, the blood, under the influence of excessive stimulation of the heart and vascular system, seems to escape upon all the internal free surfaces; and that the mucous membrane of the digestive canal, in most cases, presents more or less extensive and vivid red patches of blood. exhaled not only in the intestines, but in the stomach; and that the mucous membrane of the bronchial tubes is similarly affected. Within the last two years we have had two cases in which life was destroyed within three hours, by the pain consequent upon a burn of the second degree extending over the greater part of the surface of the body; and in neither of those cases were such appearances presented. I have no doubt that such appearances are seen; but perhaps life should be further extended after the injury to produce them.

Diagnosis.—The diagnosis of burns is deduced from the circumstances of the case, and an examination of the part. The degree is estimated by the symptoms and appearances which accompany it, by the nature of the body which has produced it, by the degree of heat of this body, and by the duration of its contact. But it is often very difficult to judge of the extent and depth of a burn before the period when inflammation has reached its highest degree of intensity, and when the parts most seriously affected assume a colour which no longer leaves any doubt of their disorganization; now, this time arrives from the ninth to the twelfth day: no doubt it is this circumstance which has given rise to an idea that a burn continues to make progress up to the ninth day; or, as the vulgar have it, "that the fire is not out of it before that time."

Prognosis.—The prognosis in burns varies with the degree and extent of the injury, the nature of the part affected, the age and constitution of the patient.—When the burn is slight, it is a purely local disease, its symptoms are limited to the affected parts, and the general health is unchanged; but, if it be extended, the irritation is communicated to the whole system, and fever supervenes. If still more extended, the fever is more violent; the thirst, as well as a sense of internal heat, is intense; the pain at the burnt part is excessive, and the patient may die in a few days, or even a few hours. This happens to men who fall into soap-lees, or scalding wort. *Cæteris paribus*, burns in children and old people are more dangerous than in adults. In certain parts they are more to be dreaded than others. In the eye, even when not very intense, a burn is very dangerous. In the hands, the face, and the neck, it is very serious; because if it be in the third degree, the chance of deformity, or closing up the natural openings, is very great. Nervous and irritable subjects bear up less well against the pains inseparable from burns, than persons whose sensibility is not so much developed.

Treatment.—In the treatment of burns the indications are pretty clear: the pain should be as promptly as possible allayed;

inflammation should, if practicable, be prevented; those parts not absolutely disorganized should be preserved from mortification; those completely destroyed, we should assist nature in separating, and we should anticipate the local and general accidents which may supervene; such as profuse, exhausting suppuration, and serious deformities. There is no disease or injury the treatment of which has been less rational than that of burns. For a long time it was purely empirical, each practitioner having his own particular remedies. One recommending emollients, another astringents; but, at present, we adapt the remedies to the different degrees of injury. Burns in the first degree, or even those of the second, if there be not removal of the epidermis, require immediate care; but the nature of the means depends upon the extent and intensity of the local irritation, and the existence of vesications or eschars. A very old opinion, re-produced in the last century, and particularly used by Hahnemann, as illustrating the "similia similibus" principle, is, that a burn may be successfully treated by exposing the part to the action of as great a heat as the patient can support, either from fire or hot water. This plan is, in many cases, essentially inapplicable; is excessively painful, and of very doubtful utility. In our own country, Cleghorn advocated the application of vinegar: others use a solution of sulphate of iron, alum, potatoe poultices. In France, Boyer advised very cold Goulard water: the part is plunged into this solution, which is renewed as often as it becomes a little warm, for hours. From the moment of immersion much relief is experienced; and, when it is taken out, compresses, impregnated with the solution, should be wrapped around it; but then cold or acidulated water will answer the purpose quite as well, provided they be continued for a sufficient length of time. Bretonneau and Velpeau employed careful graduated compression, the compresses being kept constantly wet with one or other of these fluids: they state that pain is soon lessened by it, and tumefaction and vesication prevented. If there be vesication already, a pin is passed through the vesicle. If the epidermis be detached, a piece of oiled silk is placed over it; the bandage applied, and suppuration prevented. I am bound to say, that, much as I respect the authority of those gentlemen, I have not seen these good effects to result from compression. In the mining districts, and now in almost every hospital, the common application is a mixture of linseed oil and lime water: by some men, a mixture of olive oil and white of egg, with alum beaten up, has been used; mucilages of various seeds, fatty bodies. I believe the plan of treatment by compression, or by the application of fatty or mucilaginous substances, derives its chief efficacy from the exclusion of air, and upon the same principle the use of cotton is recommended. I think there can be no question that Dioscorides had seen cotton employed mixed with grease (Lib. 3, cap. 133), or that it was often used in Greek practice; but for a very long time it was neglected. In Scotland, for many years, it has been a popular application in burns of every degree. Dr. Anderson, of Glasgow, has much employed it, and the results were published in the Glasgow Medical Journal for 1828. In most cases, it will be found that cotton will rapidly lessen the pain; even when the burn is very extensive—"in a short time the pulse will lose its frequency, the general heat will diminish, anxiety will disappear, and sleep will follow." One of its immediate effects is, to arrest or prevent the development of inflammation. He gives cases where, in bad burns, cotton was kept applied for a fortnight, and when removed the wounds were partly cicatrised. He describes the case of a young woman whose two legs had been burnt to the same degree; cotton was applied to one, oil and lime-water to the other—the first was entirely cured in three weeks; at this time the other was much inflamed, and was not well until the expiration of three months. When burns are very extensive—when there is every probability of profuse suppuration—he maintains that the use of cotton will arrest suppuration, will lessen the chances of deformity; but in these cases, the external layers of cotton must be removed when they become saturated with purulent fluids, and new ones must be applied. The mode of using the cotton is to card it, and arrange it in thin transparent layers. If vesication have taken place, the vesicles are punctured, and the fluid discharged—the part is washed with tepid water. If the burn be deep, lavender water or turpentine may be applied; the layers of cotton are then to be placed lightly upon the part, and they are to be secured there with a bandage. When suppuration is so abundant as to saturate them; or if, as may happen in warm weather, the smell is very fetid; one or all the layers may be renewed, but it must be done as quickly as possible, so that the part may be little exposed to atmospheric contact. The first application of cotton should however be retained as long as possible. M. Lisfranc uses the solution of chloride of lime, which, he believes, accelerates the cure of

wounds resulting from burns: simple dressing with holes punched in it, is to be placed upon the surface, and compresses imbibed with the dilute solution are applied over it. All the good I have ever known to result from this plan is, to lessen fetidity. Creosote, again, has been recommended as an application which facilitates the cure of burns. It is employed in solution—two parts of creosote to a hundred parts of warm water. Compresses are dipped in it, and applied to the part. Its antiseptic qualities would seem to be its only recommendation; but I have no experience of its utility. Not long since, it was recommended to use a mixture of bees'-wax and turpentine, of such a consistency as to be laid on the part in a thick layer; and it seems to be a good mode of treatment. My own opinion is, that in the first and second degree of burns the important indication is to exclude atmospheric air; and that, if this be well accomplished, much pain is spared; and, in many cases, if applied in time, violent inflammatory action is prevented, or if not prevented, much subdued, and ulterior profuse suppuration altogether avoided. It is upon this principle, I apprehend, that fatty and mucilaginous substances, cotton, flour, or starch powder, oiled silk, bandaging, and various analogous remedies, exercise such a beneficial influence. But cases will happen where we have to treat serious complications. Where stupor exists, the skin is cold and the pulse small, the patient should be placed in a warm bed, and friction should be made over the uninjured parts of the body. Warm or stimulating substances should be administered to produce reaction; the burn here is of secondary importance, the general symptoms must be promptly attended to. Cold applications should never be made at such a time. We must watch for the first signs of reaction; as soon as they appear, all stimuli must be suspended, and the burnt part must be attended to. The reaction may be so great as to render blood-letting necessary. If vesications exist, they should be lightly punctured, but the epidermis should not be detached. In removing the dress, therefore, it is necessary to be very careful not to tear away this covering, and if it be done, either apply simple dressing and a compress moistened with cold water or carded cotton upon the part. If the burn be in the third degree, and sloughs come away, the lead cerate with opium, and over it cold compresses, is the most soothing application that can be made; where the destruction of parts is greater, emollients must be applied for the purpose of hastening the process of sloughing. You must never meddle with these sloughs, by trying to remove them earlier than nature accomplishes the separation. When they are off, you must dress the wound with great gentleness, because the irritation is still very considerable, and is exasperated by very slight causes. It should also be done very quickly, because the pain is greatly aggravated by exposure. If simple dressing be used, holes should be cut in it to allow of the escape of pus, which is extremely abundant. If cotton be used, the quantity should be sufficient to absorb the purulent matter; if the quantity be very large, it may be necessary to renew the apparatus twice a day. This pus has a sour fœtid smell, which is very offensive; but it may be removed by dressing with either of the alkaline chlorides.

In deep and extensive burns, we have always to fear that suppuration may be so abundant or long continued as to exhaust the patient. In a very bad case of this kind, Laeretelle applied ice over a part of the surface for twelve days. The result was, that the part upon which the ice was placed, was, at the end of that time, only moderately inflamed, whilst the other portions suffered much. Earle also used ice. When ulcers are very large, lead cerate with opium seems to make the best dressing. If below a tolerably thick slough we feel a fluctuation, it should be incised so as to allow of the escape of the pus. The sloughs must never be dragged off, they must be excised with a scissors.

While suppuration is thus proceeding, you must not be unmindful of after consequences—the chances of deformity. If a burn be situated in a flexure, the limb or part should be kept in the fullest extension, and *vice versâ*, otherwise the contractile power of the cicatrix will infallibly interfere with motion at the part. The tendency to contraction continues for a long time, and the apparatus by which we struggle against it must not be lightly laid aside, because we have no means of recovering this contraction; incision through the cicatrix may relieve for the moment, but only for the moment. I have known, when the burn has affected the neck, and the chin has been dragged down towards the sternum, once by Lisfranc, once by Liston, an incision made through the whole breadth of the cicatrix, and immediately liberty was given, but as the wound so made cicatrises, the deformity is reproduced; in fact nothing but a complete excision of the tissue of the cicatrix promises any chance of relief. There are some situations where this may be done; others where it cannot. Even where there is no danger of such deformity, it often happens that the cicatrix presents a nodular irregular surface; this may often be prevented by passing slightly over the

raised granulations the nitrate of silver, and then applying graduated equable compression.

In superficial burns, especially when they are not extensive, it may be unnecessary to make any change in diet, or to exhibit medicine; but when large the case is different. Narcotics must be given to allay pain, and it may be necessary to continue them until inflammatory action has set in; the diet should be spare until all fear of intense inflammatory action is dispatched. If in two or three days after the accident there be much fever, and the patient be vigorous, it may be necessary to recur to blood-letting, and this is especially the case when symptoms of visceral congestion or inflammation are developed. When suppuration has set in, and fever has almost or altogether ceased, the quantity of food must be increased, but not too suddenly, or the progress of cicatrisation may be retarded, the granulation becoming too luxuriant. If, on the contrary, the suppuration be profuse, the patient feeble, his health suffering, it may be necessary to exhibit bark and iron, and to apply warm stimulants to the part. When considerable surfaces are implicated, all motion is painful; then a revolving bed, such as that of Knox, affords considerable facility in dressing and changing the clothes.

When the whole thickness of a limb has suffered, we should wait until the primary accidents are abated, and until the limits of mortification are fixed, before we amputate. This operation rarely succeeds when other parts of the body have suffered. Amputation may become necessary when a large articulation is opened by the throwing off of the slough, or when the wound is so large, deep, and irregular, that a cure cannot reasonably be expected.

CLINICAL LECTURES

ON THE

EXAMINATION OF THE SICK,

AND THE PRINCIPAL SOURCES OF FALLACY ATTENDING PRACTICAL DIAGNOSIS,

Delivered at the St. Marylebone Infirmary, November, 1839,

By John Clendinning,
Senior Physician.

(Continued from page 734.)

Mimic Diseases.

We have now dispatched three of our five sources of fallacy in diagnosis—viz. Feigned and Concealed Diseases, and Insidious Complications of Disease—and have come to the fourth head, viz. Mimic or Simulating Diseases.

Of the diseases to be considered under this head, some only have specific and familiar names; for example, gout and rheumatism, respecting which a good many facts have been ascertained, with regard both to their proximate and remote causes. But the other classes alluded to, and for which no more precise or significant name than that of neurosis, or nervous irritation, can be assigned, is much more involved in obscurity as to its ætiology, and more unsettled as to its semeiology, than gout or rheumatism. Nothing, indeed, can well be more vague and chaotic than our knowledge of the neuroses. Their whole history, judging from the accounts of the best writers, appears to me, in an ætiological view, to be to a great extent but a barren wilderness of names and guesses. However, there are two or three forms of neuroses, or perhaps more, that have had names assigned to them. One is hysteria, of which you often hear me speak; another hypochondriasis, a much less familiar name; another is the encephaloid disease, or false hydrocephalus of children; another is the pure uninflammatory delirium tremens; and I do not recollect any other to which a distinct name has been appropriated, except some forms of mental disease, viz. mania, melancholia, amentia, nostalgia,—and mesmerism. There are, however, several varieties of the neurotic condition met with in practice, which, from either being fugitive and devoid of danger, or, though not unimportant, being very variable and uncertain in their symptoms, being also in every case or form most obscure in their nature, have not been individually recorded in our nosologies. Exclusive of the names above given, there is no distinctive title for the neurotic conditions following loss of blood, or those depending on moral causes, such as mental depression, or that following wounds, operations, and other injuries; or for any of several kinds produced by intemperance of various kinds, by poisons, &c. &c. Still less are there names for a great variety of local affections that occur in broken or delicate subjects of all sexes and ages.

Now with regard to all those in common, it may be remarked that, so far as we know, the only essential element is nervous irritation, or disturbance, principally, if not exclusively, of the sensitive function of the brain and its dependencies. Humoral determinations, and a congested sub-inflammatory condition of the vessels, sometimes attend the neuroses. But vascular local distension, and general excitement, &c. are incidental

only to them, and not essential; and hence it is, in part, that they are so fugacious and variable in seat and symptom. But there is a further reason: like the vascular system, the nervous system has a universal distribution; but, unlike the vascular system, the nervous system is not slow and gradual, but rapid and instantaneous in its actions. From the remotest extremity to the centre, the communication between all parts of the nervous system is easy, rapid, and almost immediate. From this extensive and facile communication is derived that mobility of morbid action characterizing the principal neuroses. From the same circumstance it is easy to understand the facility and frequency with which purely nervous affections simulate other and graver diseases, and sometimes also each other.

Hysteria.—Now the neuroses most likely to mislead the inexperienced practitioner, and therefore most important to bear in mind, have been already named; and of these the chief is hysteria. This species of neurosis, so variable in seat and symptom as to be called proteiform by Sydenham, is a source of doubt and disputation of daily occurrence. It would appear coextensive in its range with the female sex above puberty, since there is reason to believe that, at least in civilized life, there is no female constitution so firm as, under circumstances favourable to its action, not to be susceptible of its influence, during any portion of sexual life, or at any age short of decrepitude; while, at the same time, it is by no means unknown before puberty in females, or even in the male sex.

The forms in which hysteria may present itself, so as to be liable to misconception, are numerous. Some affect the trunk, and some the extremities; some the deep-seated, and some the superficial parts; some imitate inflammatory diseases; some comatose, some neuralgic, some spasmodic, and some purely mental affections.

The following are the principal forms I have met with that are worthy of notice. First, as to the viscera. I have seen a few cases strongly resembling apoplexy; others like epilepsy; others resembling arachnitis; others like the delirium of drunkenness or mania; others of a paralytic appearance; and the minor affections of the brain simulating cephalæa, vertigo, plethora, headache from plethora, &c. are numberless.

Then, with regard to the spinal marrow, to a true inflammation or sub-inflammatory condition at least of which have been ascribed the principal forms of hysteria by several authors, I have seen apparent inflammations of that part marked by *quasi* palsy, and other symptoms, on several occasions.

In the chest, the favourite seat of hysteria is the heart, whence the palpitations and other cardiac irregularities that cause so much of distress to hysterical subjects. Amongst those irregularities are murmurs imitating valvular disease; singular sounds also in the course of the great vessels, especially in chlorotic women; a systolic impulse and extent of diffusion of the heart's sounds likewise, closely resembling those of hypertrophy.

A few times I have seen apparently inflammatory affections of the lungs, which were really merely neurotic conditions.

The diaphragm is much affected in hysteria, as shewn by spasms and other painful conditions in its locality.

In the abdomen no region is free from simulating hysteria; and I have met with it again and again in the stomach and intestines, imitating gastrodynia, gastritis, enteritis, colic, cholera, liver complaint (the last when seated in the duodenum or colon, most commonly in the latter); in the walls of the abdomen imitating peritonitis or rheumatism; in the urinary organs, resembling gravel, &c. &c.; and, in short, in every organ and tissue of the cavity simulating some grave mischief or other.

Further, in the form of rheumatism and neuralgia, and sometimes of inflammation, I have known it repeatedly attack the superficial parts and extremities, and especially the face, as rheumatism or neuralgia, and the joints, as rheumatism or white swelling.

The hysteria, then, of females above puberty is a morbid condition, which may manifest itself in almost any organ or tissue, and by almost any functional lesion, simulating thus almost every disease. In decrepid and very young females, its range is much more limited, and in males it is comparatively very rare. I have not myself met with more than three or four males in whom the globus, the variability of feeling, disposition to weep without cause, and other unequivocal signs, such as in females we should attribute to hysteria, had been clearly ascertained; but exclusive of the statements of authors, those cases would be sufficient to satisfy me of the possibility of a disease analogous to hysteria occurring in the male sex.

Case.—One of those cases occurred in this house. The subject was a fresh-looking, well-made young man, of good height and proportions, and having apparently perfect health. He complained that he had inflammation of the lungs, stated that he suffered much from dysp-

nœa, &c. and that he was in a very bad way. He appeared, on examination, to have no one symptom, functional or physical, of serious disease. He complained of sensations about the throat, occurring at intervals, and exactly resembling the globus hystericus. He occasionally wept, and was much dejected about his health. He had recently resigned an office in the metropolitan police on account of his supposed inadequacy of constitution. He had some slight cough, and trifling fever, for which antimonials had been ordered; under these he derived no benefit, but rather got worse. I then ordered medicine and diet such as I usually do for hysterical subjects, including chalybeates and animal food; after this he rapidly convalesced, and was discharged in about a fortnight.

Other Neuroses.—The only other diseases of the class mimoses, or simulating diseases, which occur to me as sufficiently frequent to require notice here, are certain sympathetic lesions of function in the brain, simulating arachnitis, epilepsy, mania, &c. To some of these I have already alluded, under the head of insidious complications, namely, the delirious, comatose, and convulsive affections incident to phthisis, morbus cordis, pertussis, and pneumonia, and in some cases also, to asthmatic bronchitis. These may in many instances be considered examples of pulmonic and cardiac disease simulating the diseases of the encephalon. The only other neurosis I think it necessary to notice under this head is the false arachnitis or pseudo-hydrocephalus occurring in children in various circumstances, and in some cases in adult females. I mean the disease described as cerebral erethism by Dr. W. Nicholl, as the hydrencephaloid disease by Dr. Marshall Hall, &c. This simulating neurosis I have often seen in children of parents, poor, living in impure atmospheres, &c.; and in those cases it seemed to depend simply on an asthenic and yet excessive irritability of the brain, &c. In others I have seen it produced by indigestion, especially in the acute forms so common in infants. It is found likewise in connexion with teething, worms, &c. The diagnosis of this disease is often puzzling, on account of the inability of the subject to furnish any information. Cases in which I have seen any thing like it in adult females have been those of delicate subjects suddenly reduced by hæmorrhages, or other very debilitating causes.

Gout and Rheumatism.—There remain to be noticed, in this class, gout and rheumatism, and the mesmeric phenomena. With respect to gout, the term mimosis applies to it principally in its abnormal forms, viz. the erratic, retrocedent, and latent gout. Under one of these forms it frequently attacks parts not usually within its range, such as the brain, the heart, the lungs, the kidneys, &c. &c. imitating apoplexy, pneumonia, and other grave diseases essentially different from gout.

Rheumatism is likewise a disease of very wide range, and of much variety. The following forms I have experienced in my own person:—1, muscular rheumatism of the common kind; 2, chronic spasm in muscles affected with rheumatism; 3, a stiffness, and an inaptitude to contraction resembling palsy; 4, periostitis; 5, a neuralgia-like affection of a part of the skin; 6, cerebral irritation (from rheumatism of the meninges) in many respects resembling acute arachnitis; 7. headache, vertigo, &c. And, in addition to the above, I have seen in other persons, inflammations of the membranes covering the interior and exterior of the heart; inflammations of the ligaments, bursæ, and tendinous sheaths about the joints, or articular rheumatism; also, a rheumatic affection of the pharynx, resembling cynanche pharyngea; also, rheumatism of the muscles and white tissues about the eye. Authors speak likewise of metastasis of rheumatism; meaning, thereby, a substitution for true rheumatic affection, of a morbid action, generally inflammatory, but different from ordinary rheumatism in seat and nature.

Mesmerism.—One more affection or group of affections remains; I mean such as have been produced by mesmerism, and are occasionally met with, spontaneously arising. The phenomena in question, of which those excited by mesmerism are the most familiar examples, must be considered as morbid, and as belonging to the class neuroses. The spontaneous conditions that seem to have been imitated successfully in this country, by means of mesmerism, are carus, ecstacy, somnolency, delirium, convulsion, and a sort of catalepsy. Somnolency and sleep are the effects first and most easily obtained by the mesmeric discipline, and those which mesmeric practitioners most rarely fail of producing Those effects of mesmerism I think I have myself witnessed in this house, and elsewhere. The other higher mesmeric developments of this form of neurosis are involved in much uncertainty. My own feeling is that they are possible, but that they can be excited only in select subjects, in whom all necessary conditions of susceptibility have previously existed, and in whom the development of the disease awaits only the application of some one of many stimuli, such as wonder, hope, fear, or other emotion; and that the mesmeric

process gives rise to resulting phenomena, merely as an occasional cause, or by an agency analogous to what Berzelius has denominated *catalysis, i. e.* as a cause neither adding to nor taking away from the subject of experiment any necessary element or condition not before contained in it, but simply by its presence determining the moment of action.

Imaginary disease. — Our fifth head is imaginary diseases. On this little need be said, since the only important mistake that can occur in cases of imagined disease, not coming under some preceding head, such as that of "Insidious Complications" or "Simulating Disease," is that sort of mistake that common worldly prudence will sufficiently guard us against falling into, viz.: the use of active means where nothing at all should be done, or where mere placebos at the utmost should be resorted to. Yet imaginary diseases are sometimes puzzling enough with regard to treatment, if not as to diagnosis. Hysterical females and hypochondriacal males will occasionally insist on the existence of grave visceral lesions that have no shadow of foundation whatever, and take offence if not believed, or at least seriously listened to, and require to be prescribed for with all the forms of professional ceremonial. Examples, indeed, of this monomania are not rare, in which persons of susceptible fancies and ill-disciplined minds have, without suffering under any positive disease, and without in reality requiring any medicinal remedies, whether Galenical or chemical, have for long series of years taken pills and potions daily, with more regularity than their "necessary food." Such cases can mislead none but ignoramuses, a class of unfeathered bipeds of which it is evident, from the authoritative declarations of our diplomas of colleges and degrees of universities, that there is no example in the ranks of the medical profession.

Case.—I shall conclude with a sketch of the case of a *malade imaginaire* that applied to me some years since, one of the most interesting examples of the hypochondriacal monomania that I have met with. The case was that of a tradesman, about 40 years of age, rather under the middle size, and of slender make, who had long suffered from a difficulty of swallowing solids, supposed to arise from some obstruction in the pharynx. For some years he had been in a declining state of health, dyspeptic, weakly, and dejected, and when I saw him was pale, feeble, emaciated, and desponding. He complained of general debility, want of appetite, melancholy, flatulence, &c. all which he attributed mainly to want of nourishment. He stated that for months he had not been able to swallow any thing but slops, viz. tea, broth, &c. owing to an inability to force a bolus of solid food past the upper orifice of the pharynx; that even liquids would pass in small quantities only, and uneasily, and that he was reduced to the condition in which he came to consult me wholly by compulsory abstinence from food. His story was told with every appearance of good faith, and was consistent enough with well-known facts, so that I proceeded to the examination of his throat with the expectation of meeting with some local cause adequate to the effects alleged, viz. some ulceration, or tumor, or paralysis, or neuralgic irritation, or contraction, or rheumatism, in the parietes of the internal fauces. But the most careful examination disclosed nothing to account for the alleged inability to swallow. The next conclusion was, that the disease might be in the mind only, and I proceeded to determine it experimentally at once. After assuring him that nothing could happen him by doing in my presence what I should desire, I gave him a morsel of bread, and requested that he would endeavour after mastication to swallow it. With much persuasion and many fears he complied, and with an effort of deglutition sufficient apparently to enable him to bolt a loaf. With a mixture of surprise and pleasure he then assured me, that but for the confidence inspired by having assistance at hand he should never have succeeded; and that even with such confidence as he felt, he did not understand how he had been able to dispose of the bread, having for very many months been quite incapable of any similarly successful effort. The result of the case was this: being satisfied to some extent that with some effort he could swallow, and being assured by me that there was no reason to despair of a complete cure of his imagined obstruction of the pharynx, he persisted for some months to take steel medicines, with bitters and necessary food, and gradually got better. Ultimately, however, I think before twelve months were past, his old apprehensions and imaginary dysphagia returned in full force, and with them his former extenuation and debility, and in a few months he sank, as I afterwards heard, exhausted, a sort of *anatomie vivante.*

I have now briefly described the most approved method of examining the sick, with a view to diagnosis, prognosis, and treatment, and have summarily noticed the principal sources of fallacy to be kept in view in conducting such examination. There remain to be exemplified the practical application of that method of examination, and the means of avoiding those sources of fallacy. This shall be the busi-

ness of future lectures, in which the principal diseases of London will be treated of clinically as suitable examples shall present themselves in the practice of the infirmary.

MEDICAL REFORM.

MEETING OF THE NORTH OF ENGLAND MEDICAL ASSOCIATION.

THE first meeting of this important Association (which now includes nearly a hundred and fifty members,) was held on Tuesday, 21st ult., in the lecture-room of the Literary and Philosophical Society, Newcastle-upon-Tyne. Upwards of seventy members of the medical profession were present, amongst whom were Dr. Headlam, Dr. White, Dr. George Fife, Dr. Charlton, Dr. Knott, Dr. Bates, Dr. Featherstone, Dr. Lynch, Dr. De Mey, Dr. Macgregor, Dr. Embleton, and Messrs. Fife, Greenhow, Carter, Talmadge, Potter, and Larkin, of Newcastle; Dr. Elliott, Mr. Bennett, and Mr. Dixon, of Gateshead; Dr. Brown, Dr. Clanny, Dr. Green, and Messrs. Dodd, Dixon, and Ward, of Sunderland; Mr. William Green, Mr. Hepple, and Mr. Balfour, of Durham; Mr. Septimus Green, of Houghton-le-Spring; Mr. Stevenson, of Wickham; Mr. Eddowes, of South Shields; Mr. Greenhow, of North Shields; Mr. Pile, of Earsdon; Dr. Young, of Corbridge; Mr. A. Davison, of Cramlington; and Mr. Batchelor, of Easington.

Mr. Carter then read the Report of the Committee, which, being a document of considerable interest and importance, we shall give entire, to the exclusion of much that was said by the movers, and seconders of resolutions, and of other matter intended for our present number.

The Report of the Provisional Committee of the North of England Medical Association, on the Present State of the Medical Profession.

The Committee, in the performance of the task confided to them, deem it unnecessary to expend many words in an attempt to prove that the state of the Medical Profession, throughout Great Britain and Ireland, has long been most unsatisfactory. This appears to be universally admitted; and in the minds of those who have reflected on the subject, no doubt seems to prevail, that some legislative enactments are imperatively demanded, to prevent a continuance of the pernicious consequences which have resulted, in some instances from the inadequacy, and in others from the imperfect administration, of the laws relating to the profession. Questions connected with the public health have not hitherto received, in this country, a degree of attention commensurate with their importance; although such questions have for centuries been recognised as objects of legislative care. From early periods of English history, and during the reigns of various sovereigns, statutes have been passed with a view to prevent the public from being imposed upon by ignorant pretenders to medical and surgical knowledge. Nevertheless, in no civilised nation of Europe is so little impediment offered to men who, without proper qualification, are permitted to execise the funetions, and usurp the privileges, of the duly-authorized medical practitioner. The number of these individuals who have entered into practice without submitting themselves to any examination as to their attainments, is great and is continually increasing. Chemists and druggists are in the constant habit of prescribing for diseases with whose nature it is impossible they can be acquainted; imposture of every kind is practised with impunity; and empiricism, in its most aggravated forms, has reached an unheard of extent, in a country abounding with colleges and medical institutions, and where degrees, diplomas, and license to practise, are derived from no fewer than nineteen different sources.

It may appear strange that abuses, such as are found in the administration of medical affairs, should have been permitted to exist for so long a period of time. They have, however, within the last few years, begun to attract the serious attention of medical practitioners. Vigorous and combined efforts are now making in different parts of the empire, to counteract their pernicious tendency; and the Committee cannot but congratulate the Association on the prospect thereby afforded, of some remedy being ere long applied to the many evils which, under present circumstances, have occasioned cause for complaint and dissatisfaction. The benefit likely to arise to the profession from such unions of its members is incalculable. They serve to point out and expose the defects and abuse of existing systems, and to pronounce emphatically, the common feeling of the profession as to the necessity of their removal. They afford opportunity for accumulating information, and for discussing a variety of topics relating to the interests of the profession—and thus prepare the way for a definite understanding and agreement as to the measures best calculated to insure an efficient and comprehensive scheme of Medical Government. The Committee entertain a lively hope, that efforts such as have already been made by different Societies and Associations, if steadily pursued, will ultimately lead to important and salutary changes.

Having endeavoured to show, that, consistently with the spirit of the laws of this realm, it is a duty incumbent on the state to adopt measures for protecting the health, as well as the lives and property of its subjects, the next inquiry must be as to the extent to which this end has been promoted by those institutions which have from time to time been placed at the head of medical affairs.

The Corporate Bodies now presiding over the profession are totally unable, either to guard the public from imposture, or to secure the duly-authorized medical practitioner against an unfair and unjust competition with persons who undertake the treatment of the various diseases to which the human frame is liable, without being able to adduce satisfactory evidence of having made a suitable preparation for the difficulties and responsibility of medical practice.

The constitution of most of the Medical Corporations is liable to the strongest objections, and is such as to render them generally unpopular throughout the profession. Their charters are for the most part characterized by a tendency to take away power from the community, and to render the governing bodies wholly independent to those whose interests they are in duty bound to cherish and protect. They are under the direction of self-elected and irresponsible officers, who, in some instances, retain their places during life, and have entire disposal of the funds arising from the contributions of the members between whom and themselves there is little community of interest or feeling. Partial reforms, it must be granted, have taken place from time to time in some of the Corporations—more especially since the investigation which was instituted by Parliament in the year 1834; but they have by no means reconciled members of the profession to the continuance of a system whereby they are, as a body, almost entirely deprived of any share in the management of their own institutions.

A statement was made to Lord John Russell, when Home Secretary, by the Council of the British Medical Association, to the effect, that out of 1830 practitioners employed under the Poor Law Amendment Act, 327 had not been examined in surgery, 323 had not been examined in medicine, and 233 had not been examined at all. In a memorial lately presented to the Secretary of State by the Medical Association of Ireland, it is affirmed that "some of the Dispensaries of Ireland, which are supported at very considerable expense to the country, are entrusted to persons who have received little or no medical education." The same document contains the following passage:—

"The services of medicine are required in both the civil and criminal judicature; but, singular and barbarous as it may appear, it is no less true, that neither the written statutes, nor the opinions of the judges, define who are to be recognized as the administrators of those services; and while the letter of the law is apparently complied with, by the reception of the evidence of any man who chooses to assume the medical character, its spirit is frequently evaded by the attribution of that character to persons altogether destitute of any right, nominal or legal, to its possession. Coroners and other magistrates can, and do, commit accused persons to gaol, solely on the testimony of witnesses whom those officers may choose to consider medical; juries pronounce capital convictions, and decide questions of inheritance, upon similar grounds; and inoffensive members of society are torn from their homes, and incarcerated in lunatic asylums, upon the certificate of any one who chooses to call himself a member of the medical profession."

The Committee have pleasure in acknowledging the greater liberality evinced, of late, by the London College of Physicians—a corporation long distinguished for a selfish and monopolizing spirit, to which may be ascribed not a few of the evils at this moment most bitterly complained of by medical men. As at present constituted, this ancient body can exert but little influence in the corrections of those evils, its power being limited to London, and an extent of seven miles around the metropolis.

Out of several thousand members of the Royal College of Surgeons in London, not more than one hundred are really eligible to seats in the Council. The charter of this College confers upon it no authority over persons who wish to practise surgery; its diploma is honorary; the examination necessary for its attainment is self-imposed on the part of the candidate; and as the Society of Apothecaries take no cognizance of surgery, any one is at liberty to practise that branch of the healing art in England, without being required to prove that he has paid the least attention to the study thereof.

The Society of Apothecaries are authorized (or, rather, are supposed to be authorized) to prevent persons practising as apothecaries without their license; but the difficulty of proving who is, and who is not, an apothecary, according to the meaning of the statute, and the great expense incurred by legal proceedings, have prevented the Company from exercising the power entrusted to them by parliament, except in a very limited number of instances, whilst many hundreds of per-

sons are daily permitted with impunity to infringe the Act of 1815. The Committee, not unmindful of the improvements in medical education which are attributable to the Society of Apothecaries, are yet of opinion, that the examining and licensing of the majority of the medical practitioners of this kingdom would never, under a proper system of legislation, have been placed in the hands of a trading company.

Of the medical department of the University of London, the Committee would desire to speak with respect. The new institution has, however, the same defects as most of its predecessors, in possessing no positive authority or control over medical education or practice. It is likewise open to objection, in being governed by a Council appointed wholly by the Government.

A state of medical polity so feeble as that which has been described, will easily account for the unrestricted career of empiricism for which this kingdom has long been notorious. The unblushing falsehoods continually put forth and promulgated through the medium of the press, in support of a system whose injurious and fatal tendency cannot be doubted, are disgraceful to a civilized country; and, strange to say, instead of any legal cognizance being taken of its enormities, they may be said to receive a tacit encouragement from the Legislature, a portion of the public revenue being made to arise from the sale of nostrums and "universal medicines!"

A scrupulous, and, perhaps, culpable degree of delicacy has hitherto been observed, by medical men, with regard to the iniquitous practice of empiricism, which may be ascribed to an apprehension lest their interference might subject them to the imputation of being actuated by mercenary and interested motives. Since, however, they, of all persons, must be most familiar with the consequences of quackery, it becomes a duty incumbent on them to protest against a system dangerous to society, and too often attended with fatal results to its credulous and unsuspecting victims. Much as may be done by legislative enactments, to diminish the evils of empiricism, they can never, it is feared, be entirely suppressed, until many prejudices and erroneous impressions, with respect to health and disease, shall have been removed from the public mind.

Amidst the rapid progress of science, in almost every department, which has distinguished the present century, it must be admitted that medicine and surgery have kept pace with other departments of knowledge; nor can it be denied that the education of practitioners has been extended in a somewhat corresponding ratio, although still susceptible of great improvement. The course of study prescribed, and the examinations instituded, by the various colleges, have not, in general, sufficient reference to practical utility. The long space of time which, in accordance with the regulations of the Society of Apothecaries, is consumed in the apprenticeship of the general practitioner, compels him, in most instances, to compress into a very limited period his study of the whole circle of the sciences connected with a knowledge of medicine and surgery, which, as a natural consequence, leads not unfrequently to the acquirement of a vague and superficial kind of information. Too much importance is attached to the possession of testimonials and certificates, which are well known to be bestowed most indiscriminately. They can rarely be received as indications of the student's diligence in attending the means of instruction, and can never mark the extent of his proficiency. The latter is seldom properly tested even by the examinations for license or diploma, which are commonly conducted in a cursory manner, and one but little calculated to ascertain the practical acquirements of the candidate.

It has been already observed that there are, in the United Kingdom, nineteen different sources from which may be obtained diplomas in medicine and surgery, and license to practice. The rights and privileges conferred by particular corporations are limited in their scope, their members or licentiates being thereby authorised to exercise their vocation in one part of the kingdom, but not in another. Thus, one who has been licensed by the College of Surgeons in Edinburgh, as a general practitioner, cannot legally act in that capacity in any part of England or Wales, unless he have procured, in addition, the license of the Society of Apothecaries, London. The most lucrative surgical appointments in Ireland can be held only by members of the Dublin College of Surgeons; and physicians who practise in London must be licentiates of the Royal College of Physicians of that metropolis. The course of study enjoined, and the examinations instituted, by these separate colleges, differ widely in nature and extent. In some they are most imperfect, a knowledge of particular branches being required, whilst others are passed over in silence. Hence, a practitioner who possesses merely the diploma of the London College of Surgeons shall not have been examined in the theory or practice of medicine; and he who contents himself with the license of the Apothecaries' Company, shall have undergone no test as to his acquirements in surgery. Midwifery is entirely neglected

by the College of Surgeons, and scarcely touched upon in the examinations at Apothecaries' Hall.

The unity of medicine and surgery is too generally acknowledged, in the present day, to admit of dispute. It is, in fact, not possible to draw a line of demarcation between them, they being one and indivisible. A very slight experience is requisite to prove the futility of any attempts to separate them in theory, much less in practice. Illustrations without end might be adduced of the mischief arising from an exclusive adherence to one or the other. It follows, therefore, that all persons intending to enter the medical profession, should undergo the same preparation for their practical duties; and with this conviction firmly impressed upon their minds, the committee coincide entirely in the sentiments contained in the petition adopted in July, 1839, by the Provincial Medical and Surgical Association, as to the propriety of establishing "an adequate and uniform education for the whole profession; so that all who enter it shall pass through the same course of preliminary and professional instruction—be tested by the same examination—and, when approved, entitled to the same privileges. The natural unity of the profession imperatively demands this consolidation, there being no more preposterous and mischievous anomaly than that presented by the existing state of the medical institutions of this kingdom, where practitioners of physic, issuing from sixteen [it might have been nineteen] separate sources, differing from each other in the course of education enjoined, the qualifications required, the examinations by which the qualifications are tested, and the privileges conferred!" The expediency of a liberal preliminary education being made an essential requisite in candidates for medical practice, cannot be too strongly insisted upon; since it must ever afford the best security for the respectability of the profession, and for the maintenance of that honour and moral rectitude by which its members should be distinguished. The differences in the curricula of study and examinations already spoken of, leads to a species of competition eminently calculated to lower the standard of professional attainment. It has been found (as might have been naturally expected), that those examining bodies are most resorted to, which grant their licenses on the easiest terms, as to length of education and severity of examination. Students from Dublin, for example, have, on this ground, been so much in the habit of deserting their own Colleges, and migrating to other establishments, as to compel the College of Surgeons of that city, in self-defence, to diminish their scale of education and strictness of examination. Some change is necessary to obviate a disparity so prejudicial to medical science, and to effect the uniformity of education, examination, and privilege, so ably advocated in the petition referred to, and the propriety of which seems now, indeed, to be acquiesced in by all who have paid attention to the subject.

The proposal which, in the present day, has perhaps obtained the greatest number of supporters, as tending to accomplish the last-named objects, and at the same time to regulate the affairs of the profession in general, and to place it under an efficient superintendence and control, consists in the establishment of a National Institution of Medicine, composed of three branches—one for England, another for Scotland, and a third for Ireland—founded on similar principles, governed by the same regulations, and having a representative Council to act as the executive in arranging and directing all matters of detail respecting the government, education, and police of the profession, and the care of the public health.

The desirableness of such an institution scarcely admits of doubt. In considering the probability of its attainment, however, difficulties of no ordinary magnitude present themselves, unless its establishment could be carried into effect without of necessity involving the destruction of existing Colleges and corporate institutions. The opposition which there is every reason to suppose would be raised by any attempt to supersede entirely the institutions now at the head of medical affairs, might, it is conceived, prove fatal to the cause of medical reform, or would, at least, postpone its accomplishment to a distant period of time. The influence possessed by some of these bodies, in certain quarters, is such as to forbid the Committee to entertain the hope of seeing the speedy erection of any new system of medical government, whereof they will not, in some way, form a constituent part. The Committee are not prepared to state the exact nature of the changes which, under their present constitution, would be required to render those bodies subservient to the promotion of the objects contemplated in the preceding remarks. They would, undoubtedly, be extensive, and could only be determined after mature and careful deliberation. One of the earliest steps would be to abolish the self-elective system which now prevails throughout the corporations in question, and to substitute a more popular mode of election. Without such a change in their respective constitutions, they could form no part of a more comprehensive plan, which could satisfy the profession, or obtain the confidence of the public.

The practice of pharmacy has not, in this country, received the attention which has been bestowed upon it by other European nations; nor has the English apothecary been distinguished by the scientific attainments of the French or German compounder of medicines. Material amendment is here absolutely requisite. Many objections might be urged against some of the methods at present made use of in the compounding of medicines. The indiscriminate and careless manner, also, with which the most deadly poisons are dispensed from the shops of our chemists and druggists, amounts to a national reproach. To arrest, as far as possible, the dangerous consequences arising from the want of some controlling influence in the department of pharmacy, the committee think that no person should be allowed to prepare and sell medicines without obtaining a license for that specific purpose, which should be granted him after a suitable examination, conducted before a properly constituted Board, such as that which might be afforded by the Society of Apothecaries, London. It is of vital consequence that a duty so important as the preparation of prescriptions should be placed in the hands of competent and educated persons, who are fully aware of the responsibility they incur in the performance of that duty—whose attention is undivided by other avocations—and whose time is occupied in the personal superintendence of pharmaceutical operations. It is conceived that such an arrangement would be alike serviceable to the medical practitioner and beneficial to the public, as it would most undoubtedly tend, more than any other means, to advance the science of pharmacy.

The Committee cannot close this Report without adverting to an evil which, perhaps, of all others, has tended most to lower the respectability of the medical profession, and to diminish the estimation in which its members might otherwise have been held by society in general, viz., the mode of remuneration hitherto most commonly adopted by the general practitioner. The Committee are confident that the slightest reflection must convince every ingenuous and enlightened mind, that nothing can be more derogatory than that the education, skill, time, and attention, of the medical attendant, should be rewarded in proportion to the quantity of medicine supplied to his patient. It is obvious, that by such an arrangement the practitioner must always be liable to a most odious and, perhaps, unjust imputation, of prescribing with a view to his pecuniary gain, rather than for the exigencies of his patient; and it is most unfortunate, that, under any circumstances, the slightest temptation should be offered, by such a practice, to overstep the boundaries of the strictest justice and integrity. The Committee are aware that this custom has been, in some localities, abandoned by the common consent of the profession; and that in almost every town throughout the kingdom there are individual practitioners who adopt a mode of remuneration more consonant with the character of a liberal profession. The feeling of medical men in general is repugnant to the practice; and its continuance, in the present day, is, in the opinion of the Committee, attributable to the difficulty experienced in relinquishing an established usage, and one which has received an apparent sanction from its having been adopted by men of station and respectability—not, perhaps, from a conviction of its merits, but reluctantly, and in obedience to custom and precedent. In agitating this and other questions wherein their interests are concerned, the motives of medical practitioners are liable to misconstruction; and the too great mystery in which their operations have been hitherto involved, has created in the public mind some degree of jealousy with respect to their proceedings. The Committee trust, however, that such impressions are rapidly dying away, and that the remains of prejudice and error still existing on this and other points connected with medical practice, will yield as education becomes more and more widely diffused. The differences of opinion amongst medical men may retard the progress of medical legislation in other respects; but, in the meantime, no legal enactment is required to modify or abolish the system under consideration; and it will afford the Committee sincere pleasure, if any representation issuing from this Society shall be instrumental in placing the remuneration of the general practitioner on a just and proper footing.

The Committee have thus endeavoured to lay before the Association a brief statement of the existing condition of the Medical Profession in this country. The amendments which have suggested themselves in the course of the inquiry, if briefly summed up, will be found to consist in the attainment of a sound legal organization for the profession, to whose superintendence shall be confided the direction and control of all matters relating to the public health, and to medical education, practice, and police; the several compartments of which system shall be made subservient to the same end— the protection of the public from the dangerous and fraudulent practices of ignorant and uneducated persons, by requiring a certain standard of qualification from all who enter into medical practice, which shall confer similarity of privi-

lege on members of the profession throughout England, Scotland, and Ireland. The proper registration of legally-authorized practitioners—the suppression of quackery, so far as that can be effected by legislative interference — the examination and licensing of apothecaries, or compounders and sellers of medicine, &c. &c. being comprised in such scheme of medical government.

Throughout the preceding observations, the Committee have been desirous to avoid entering into unnecessary details; feeling persuaded that a further consideration of them than has here been attempted, would have been incompatible with the limited nature of the duties assigned to them in the preparation of this Report. The efforts of medical practitioners should, it is conceived, be directed, in the first instance, to the establishment of those broad and general principles which should form the basis of an improved constitution for the medical profession. The introduction of minor particulars, amidst the conflicting state of opinions entertained respecting them, would tend to impair that unanimity, which, at this time, it is desirable to cultivate amongst the members of our profession. It would, furthermore, subject their efforts to the decided hostility of existing institutions, and create, on the part of the legislature, a disinclination to entertain the difficult and complicated question of Medical Reform*.

ON SCARIFICATION OF THE CERVIX UTERI.

To the Editor of the Medical Gazette.

Sir,

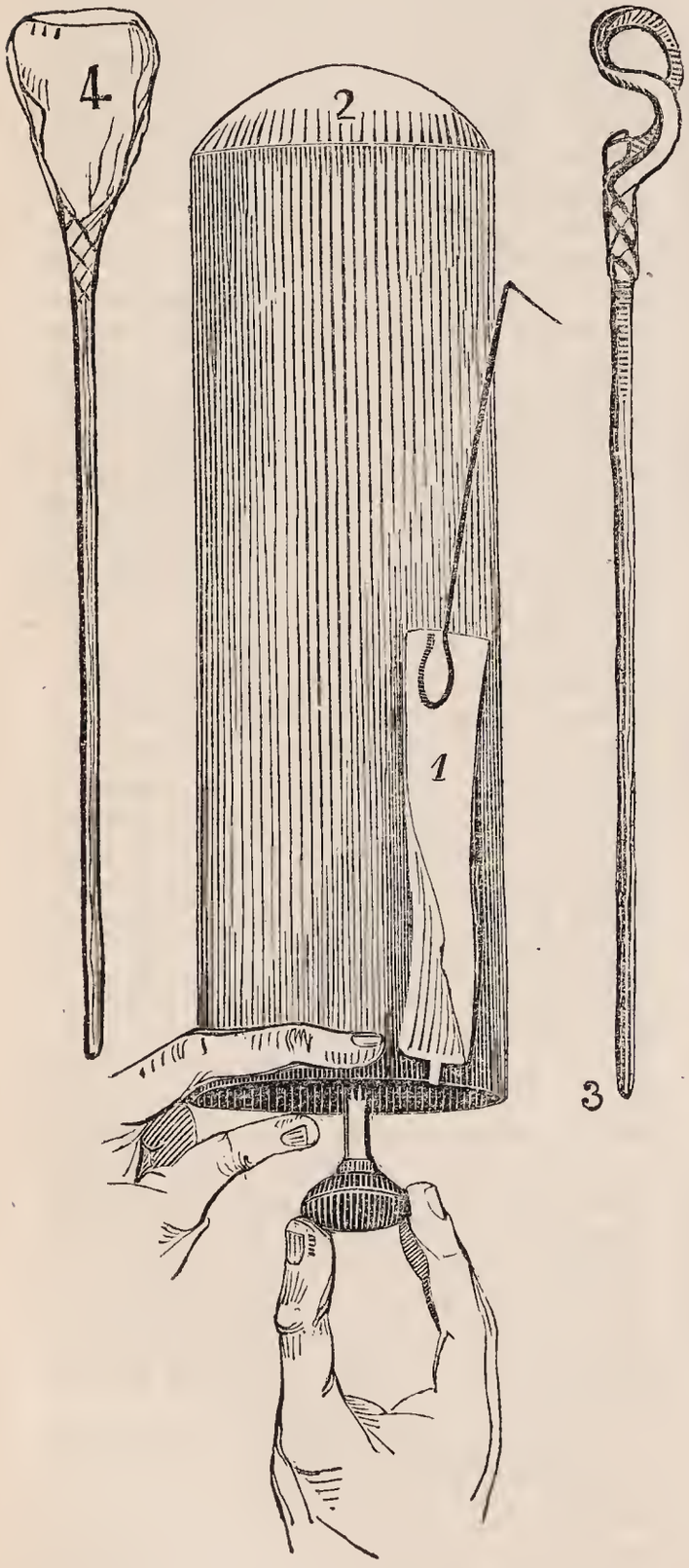
Since the publication of my operation of Scarification of the Cervix Uteri, in the Medical Gazette of November 29, when I was materially benefited by the valuable and kind assistance of Dr. Ashwell, I have performed it in numerous cases, with unvarying satisfaction, and, also, in important consultations with several leading gentlemen in this department. In cases where the local and constitutional symptoms demand abstraction of blood from the uterus, (and these symptoms are not to be relieved by medicine,) I have little doubt but that this truly painless operation will be found as effectual and safe as the scarification of an inflamed gum. [In reference to that case I would point out the advantage, during a mercurial course, of preventing the distressing soreness and ulceration of the mouth and gums, by the constant use of Dr. Darling's excellent preparation of chloride of soda, obtained from Mr. Garden.]

Having received numerous inquiries respecting the best mode of using my speculum, and also relative to the steps of the operation of scarification of the cervix uteri, I take this opportunity of explaining. The proper position of the patient is to recline on the back, the feet resting on the edge of the bed. I have no intention of entering into the controversy on the use or the abuse of the speculum; but I wish to say, that in my own practice, and when properly conducted, there is very little exposure. A metallic tube, of one of my three sizes, which may be seen at instrument makers, adapted to the individual case (1 inch, $1\frac{1}{4}$, $1\frac{1}{2}$,) with the corresponding box-wood cylinder, fig. 2, fitted to the wooden handle, and introduced to the end of the tube, until it stops, is to be lubricated with some unctuous substance. The introduction of the speculum is always to be accomplished without producing any positive pain. Pressure is to be made with a gentle, semi-rotatory motion, entirely on the wooden handle, held by the thumb and two fingers of the right hand, and in the exact direction where the os uteri has previously been ascertained, by the taxis, to be situated; the thumb and index finger of the left hand, fig. 1, are applied to hold the tube. The box-cylinder, fig. 2, having passed the perineal portion of the vagina, and entered the pelvic cavity, the resistance has ceased; and the wooden handle attached to the cylinder being withdrawn, the most perfect view of the os and cervix uteri is obtained, corresponding with the size of the diameter of the tube, as in fig. 5, either by the natural light or that of a taper.

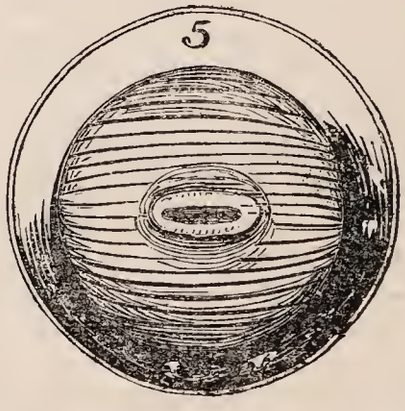
The tube is made of the same diameter throughout, to obtain the largest possible view, and the effect of the conical box-wood cylinder accurately fitting the tube, produces previous dilatation, before the tube (its edges being thus protected by the cylinder) comes in contact with the vagina. If a minute or two are occupied in preparatory dilatation towards the perineum, a larger sized tube than otherwise may be introduced, always, it is to be understood, without

* From the Gateshead Observer.

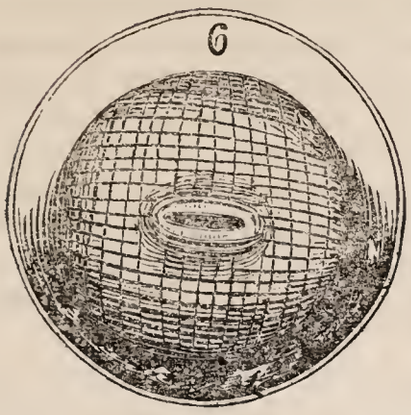
producing positive pain. Thus, with the aid of the cylinder, I now use the inch-and-a-half diameter, where formerly I should not have attempted doing so; and thereby I obtain a more important view. The elastic strap of narrow Indian-rubber web, fig. 1, then securely



fixes the speculum, by the small hook being attached to the tube, and the large hook to the patient's drawers. All other specula employ one hand to hold them in their situation. Thus both hands of the operator are at perfect liberty for the operation of scarifying the cervix uteri, or the usual ones connected with the injection of the uterus, the application of caustic to abrasions or ulcerations of the os and cervix, leeches around the cervix, or the soothing application of a pledget, and of lint saturated with Mr. Battley's *liquor opii*, placed over the os and cervix, just as the speculum is withdrawn. This last is a new remedy, always affording signal relief, even in malignant cases, which was the valuable suggestion of Dr. Farre. The speculum is, therefore, indispensably necessary, not merely because the unassisted sense of touch is insufficient to discover the morbid phenomena thus disclosed to the sense of sight, but is equally so as a medium for the local application of various medicaments. The state of the whole extent of the mucous coat of the vagina may be most minutely explored by slowly withdrawing the tube. The accompanying sketch illustrates the steps of the operation of scarification of the cervix uteri. The speculum being duly introduced to expose the cervix, and secured by the elastic Indian-rubber strap, fig. 1, the little mop, fig. 4, made by tying lint or wadding on a skewer of wood six inches long, is first used to remove mucus, and enable the structure to be clearly examined. A lancet, mounted on a similar stick, is held by the thumb and two fingers of the right hand, and used like a pencil, making superficial scarifications, transversely, from one-sixteenth to one-eighth of an inch in depth. These transverse scarifications must commence from below, that the subsequent lines may not be obscured by blood. Fig. 5 shews the operation



thus completed, which will furnish about three or four ounces of blood. But where the abstraction of a greater quantity is desirable, the incisions are crossed perpendicularly to the first, as seen in fig. 6, which, in a few minutes, will



produce six or eight ounces of blood. The tube being kept in a depending position, the blood trickles freely through it into a saucer placed underneath; and to prevent obstruction to its flow, I remove coagula by means of a scraper made of a bit of bonnet-wire, tied to a stick, and bent, as represented in fig. 3.

In my own practice this operation will supersede leeches, which, on many accounts, are objectionable to both parties; in the one, exciting a degree of alarm and anxiety; and in the other, taxing to the utmost the virtue of patience. When leeches are used, I have found that they live longer, and are rendered more useful, by putting them in the gorged state into tepid water, and keeping them in a warm situation. Practitioners will find that a greater degree of relief is almost instantly obtained, as well as the saving of much time. The stimulus of the scarifications, moreover, rouses the action of the absorbents so effectually, as to produce in a short time the palpable diminution of an engorgement. Any further requisite information I shall be happy either publicly or privately to communicate, as well as to shew the operation to any practitioner who is treating an appropriate case.—I remain, sir,

Yours respectfully,

J. L. Fenner.

15, King's Row, Pentonville,
Feb. 5, 1840.

CASE OF

MALFORMATION OF THE COLON AND RECTUM.

To the Editor of the Medical Gazette.

Sir,

I take the liberty of transmitting to you the history of a very interesting case which has recently fallen under my notice: I shall feel obliged by your inserting it in your valuable periodical.

A healthy looking, well-formed female infant, born at the full period, was brought to me, January 17th, thirty hours after its birth, in consequence of not having had any passage from the bowels; castor-oil had been given by the nurse without effect. The infant had now begun to vomit a brownish fæculent matter. Suspecting a stricture of the rectum, from having had a case of the kind before, I examined her per anum with the little finger, but could not pass it further than half an inch, in consequence of a firmly resisting ring which closely embraced the tip of the finger, but beyond which there was evidently a passage: my friend, Mr. Square, afterwards passed a bougie to a considerable distance. It was, therefore, very uncertain at what point the obstruction existed; or what the cause of this might be, which, indeed, admitted only of a probable conjecture.

It was evident, however, that the rectum had begun to contract very near the anus. The infant lived nine days—did not appear to suffer much—took the breast feebly, but continued occasionally to vomit a brownish fæculent matter. The abdomen gradually became distended, and viscid mucus was discharged daily per anum, whitish, and in long tenacious strings.

Died Jan. 25th.—Body examined four hours after.

The integuments around the groins were discoloured, and the belly very tense On laying open the walls of the abdomen no trace of inflammation or its consequences appeared. The viscera were much distended with flatus and fæcal matter. The colon, which was very much inflated, passed up on the right, and making a short turn across the umbilical region, terminated in a smooth rounded extremity or blind sac; this had a covering of peritoneum, although the great omentum was entirely deficient. There was a well-formed caput coli, but no appendix vermiformis, which was also deficient. The ileo-colic valves were quite perfect; the colon was quite smooth and even throughout. The small intestines were healthy and perfect, and having traced them to this obliterated portion of the colon, the sigmoid flexure and the rectum seemed not to have been formed.

On turning aside, however, all the viscera, and examining the pelvis, there appeared a tortuous cut, not larger than a swan's quill, which could be traced along the left side of the spinal column, and which, passing through the pelvis. terminated at the anus; its upper and free extremity was smooth, quite closed, and pointed, commencing about the middle of the abdomen. Its termination at the anus was pervious, and from this a common sized urethral bougie could be passed through the canal to the upper and blind commencement of the gut; this was retained in its situation by a covering of peritoneum and by cellular tissue, and from its anterior surface near the anus the peritoneum was reflected on to the uterus and bladder: both were perfect. The coats of this gut (which may be said to represent the sigmoid flexure of the colon and rectum) were firm, and admitted but of slight distension; it was quite isolated, having no connexion with any of the other viscera, being only covered by the peritoneum.

The length of the colon, from the ileum to its closed and rounded extremity, is nine inches. That of the gut, terminating at the anus, is rather more than ten inches, making allowance for its convolved form.

I shall now claim your attention to a short sketch of another case which occurred to my colleague Mr. Hutton and myself, when I was house-surgeon to the General Lying-in Hospital, Westminster. Here the cause of obstruction depended on the obliteration of the canal of the rectum, to the extent of three quarters of an inch, very near the anus. It occurred in a very fine female infant, and caused death in five days. By introducing the little finger per anum, and passing, at the same time, another finger per vaginam, the examining finger could be traced immediately below the stricture, and the fluctuation of the distended bowel above this might be felt. A very careful attempt was made by Dr. Cape and Mr. South to relieve the obstruction, and to obviate, in doing so, the future inconveniences likely to be attendant on an operation. The infant, however, did not survive.

After death the intestines were found distended from flatus, especially the colon. The rectum was distended to its greatest extent with meconium. The strictured part was three quarters of an inch in extent, very firm and indurated, rendering the rectum imperforate. The rectum appeared to have taken on incipient inflammation, the vessels were engorged, and were ramified over the coats of the bowel. In this case there was a great deficiency of the hard palate.

I have the honour to be, sir,
Yours obediently,
HENRY SMITH.

Notte Street, Plymouth.

MEDICAL GAZETTE.

Friday, February 14, 1840.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

MANAGEMENT OF THE POOR IN SCOTLAND.

WE remarked in our last article, that the large and increasing number of fever cases in Edinburgh, would of themselves speak to the medical reader, and required no commentary. But though the fact is trumpet-tongued to the intelligent, an interpreter is necessary to the multitude*.

The conclusion, then, is, that misery is widely spread over the town, and is still extending its grasp. For, as the botanist can tell the quality of the soil from the flowers that spontaneously arise upon it, the physician knows the state of a people from the epidemics which mow it down. Thus dysentery is a disease of camps, and dysentery ravaged the London of the 17th century, whose dirty inhabitants lived in the wretched and reckless manner of a camp; and the fevers which continually desolate Ireland shew the state of the country better than whole folios of reasoning. "Ireland has near seven millions of working people, the third unit of whom, it appears by statistic science,

* Φωναντα συνετοισιν· 'ες
Δε το παν ἑρμηνεων
Χατιζει.—*Pind. Olymp.* ii.

has not for thirty weeks each year as many third-rate potatoes as will suffice him. It is a fact perhaps the most eloquent that was ever written down in any language, at any date of the world's history*."

And then, as a commentary on the *Laissez-faire* system, and its attendant starvation, we learn that in one Dublin Hospital, 24,000 fever cases were admitted in ten years preceding 1817, and 39,000 into the different hospitals in twenty-one months of 1817-18; that in Cork one-seventh of the population passed through the fever hospitals of the city in 1817-18; and that one-fourth of the population of Limerick was attacked with fever at that time! While in several districts, where "great exertions were made to relieve the poor, and a large sum of money expended in procuring them the necessaries of life, there the epidemic never raged to any great extent†."

Scotland holds a middle place between Ireland and England; the neglect of the poor is great, and the ravages of fever in Edinburgh and Glasgow are frightful. The latter city, indeed, almost rises to the bad eminence of an Irish town, for, two years ago, the proportion of inhabitants attacked with fever was nearly one in ten‡.

England, with what some regard as the *plaie dévorante* of the Poor-Laws eating us out of house and home, has a very different account to show. Thus the annual average of fever patients admitted into the hospital at Leeds, a town of 123,000 inhabitants, was 274, for the seven years preceding 1836; while at Glasgow, with a population of 253,000, the annual average was 1842. Other English towns exhibit a still more favourable state of things; for instance, in Newcastle and Gateshead, where the population is nearly 58,000, the number of fever cases "taken into the institution appropriated to them was only 8 in the year for some years before 1817, and only 39 in the year for seven years preceding 1836*."

As another proof of the superior condition of the poor in England, Dr. Alison adduces, with great justice, their superior cleanliness, when compared either with the Scotch or Irish. Destitution always produces a disregard of personal neatness; and when a people are down at the Irish level, potatoes and bacon must precede soap and towels. Shakspeare, with his usual felicity, speaks of a "lean unwashed artificer"; for the unfed are also uncleansed. Those who see the poor only out of their carriage windows do not understand this, and are unspeakably astonished that the starving do not wash their faces before their—no-breakfast. It seems that twenty years ago the Chief Secretary of Ireland carried his irrecognition of this simple truth to such a humorous pitch, that he expressed a hope to Parliament "that the lower Irish would be better prepared in future, to guard against such a calamity; that they would be more cleanly in their persons and domestic habits, fumigate their houses, and change their bedding and clothes." Excellent! "Change their bedding and clothes." Rich indeed! This will remind our readers of the scene in the "Art of Ingeniously Tormenting," where the complaints of a fallen acquaintance are met with the reply, "Well, my good fellow, as you are quite ruined, and say you haven't a farthing in the world, I recommend you to buy a small estate, and settle in the country." Or, perhaps, Dr. Alison's illustration is better still, when he says, that it recals the story of the French Princess, who wondered that her father's subjects should be so foolish

* Chartism, p. 25.
† Alison, p. 29.
‡ Alison, p. 26, note.

* Alison, p. 27, from Cowan's Vital Statistics of Glasgow.

as to die of hunger, observing that she would rather eat bread and cheese than starve. For, after all, the Chief Secretary did not mean to practise the art of ingeniously tormenting, but was merely very ignorant.

Now, although in Edinburgh the number of the indigent has been rapidly increasing, the exertions of the institutions for their relief have been increased only in those cases where poverty is combined with sickness. The assessment in the city parishes, indeed, was raised, in 1831, from 5 to 6 per cent. on the rental; but money was wanted to pay off debt; and the expenditure on the poor, which was above 9,000*l.*, in 1825, was only 9,010*l.* 10*s.* 3*d.*, on the average, in the years 1835, 6, and 7.

An increased assessment was proposed in the beginnning of 1839, by the managers of the Charity Workhouse, but was rejected by the Town Council. Nay, when, in a large suburban parish, containing 70,000 inhabitants (the West Church), it was proposed to raise the assessment from 11d. in the pound to 1s. and appropriate the sum thus gained to widows and orphans, the proposal was rejected by a large majority!

In severe winters, soup-kitchens have been opened in Edinburgh; but though this was generally done when there was a risk of contagious disease spreading from close wynds to lofty mansions, (which might almost excuse benevolence in the eyes of rich economists), many influential persons grumbled, and rather than ruffle a single feather of their theories, would have preferred starving by proxy. In plain English, there has not been merely a slackness in subscribing for the relief of widows and orphans, of the aged and the disabled, but a positive discouragement of this essential part of philanthropy. The injunctions of religion, the instincts of nature, and the dictates of experience, are answered by feeble scraps of Malthusian jargon, such as "breaking down the spirit of independence among the poor," &c; and those who appear to feel much anxiety about their sufferings, says Dr. Alison, "seem to be usually regarded as well-meaning weak-minded men, who are incapable of comprehending the 'principle of population.'" There are two special fallacies concerning the English system of poor-laws which Dr. Alison has taken the trouble to demolish. The first is, that under the English system pauperism increased, until the paupers amounted, some time since, to nearly one-tenth of the population. Now the fact is, that the proportion of paupers to the population, and of the poor rates to the national wealth, had been decreasing for more than a century. Much smaller, then, is the proportion now that £2,300,000 have been struck off from the annual amount of the rates. And here we must beg our readers to observe that the Scottish economists object to the poor's rate in England, not only as it was distributed before the late Act, after a lenient, and sometimes a careless fashion; but to the poor's rate as now doled out, grudgingly, and with the most pinching frugality. What we here call stinginess, our northern fellow-subjects would brand as shameless extravagance; while the sums given for the relief of misery there would here seem a mere mockery. Thus "at Kilmuir, in the Isle of Skye, the average funds distributable among the poor *are about* £3. *annually in a population of* 2275, and a distribution is made only once in two years." "The friends of a lame woman in a Highland parish applied to the minister to know what amount of relief could be given? The answer was, 7s. 6d. per annum is the utmost."

It is true that the English rate, even under the parsimonious interpretation of the late Act, is far greater than in Scotland; but this is not owing to any increase of pauperism, but simply, as Dr.

Alison observes, to the higher standard of comforts which the people of England are willing to grant to their poor.

The second fallacy, which seems to us to be even more important than the first one, consists in the supposition, that what the opponents of Poor Laws call increase of pauperism, is identical with increase of suffering. Every one knows, or ought to know, that the condition of the lower orders in England, whether included under the term "paupers," or not, is far better than in countries where adequate legal relief does not exist; and infinitely better than it was in England during the sad blank which intervened between the abolition of the monasteries, and the establishment of a regular and ample provision for indigence.

The account which historians give of the turbulence of the starved and neglected populace of the 16th century, reminds one so strongly of the agrarian outrages in Ireland, that it is surprising that no statesman should have seen, till so lately, that the same disease demanded the same remedy. The traveller's mantle, which the rain made him draw more closely round him, was thrown open to the genial sun; and a sufficiency even of potatoes will do more to quiet Ireland, than bullets and bayonets, and court-martial law.

Mr. Revans, the secretary to the Poor Law Commission, was asked, by an Irishman, *who had never been in England*, whether he would reduce the Irish labourer to the level of the English pauper. But when the inquirer learned what was the food, clothing, &c. of an English pauper, "he soon perceived that no English pauper in his senses would change places with a farmer holding twenty acres of land in Ireland."

Hence, though "pauper" is an ugly word, it is by no means so black as it has been painted. In truth, for many years a pauper often meant no more than a labourer whose wages were partly paid out of the rates; a labourer, whose employers ingeniously maintained him, in part, at other people's expense, and who, being nominally hired at very small wages, was in some measure reimbursed by the parish. But though he got too little for his toil, as we fear husbandmen often do throughout Europe, he did not live, like the independent labourer of Ireland, on a short allowance of third-rate potatoes; nor lie on bare boards; nor subsist on three meals a week, like some of the Scottish poor mentioned by Dr. Alison.

We shall conclude this subject on an early occasion; but we cannot terminate the present portion of it without offering our cordial thanks to Dr. Alison for his masterly exposition of so important a topic; it is delightful to have such an ally in such a cause. So forcible a statement must extort something from shame, and obtain much from sympathy. The exertions of the humane, in England, have not been wholly without effect. In Mr. Cross's hands, flints appeared to be composed of petrified vitality, and were galvanized into a second life; and our Commissioners have been obliged, by the pressure from without, to forego a little of their economic lore, and revert to better feelings.

Saxa (quis hoc credat, nisi sit pro teste vetustas?)
Ponere duritiem cœpêre, suumque rigorem!

LIVERPOOL MEDICAL ASSOCIATION.

DR. FRECKLETON IN THE CHAIR.

Congenital Deafness.

DR. EDWARDS related the post-mortem appearances in a case of congenital deafness. On one side, the membrana tympani and ossicula were wanting. On opening the cranium the part of the temporal bone over the semicircular canals was more prominent than usual, and on cutting through this the canals on both sides were found filled with caseous matter.

The osseous structure was natural; every care was taken to prevent the dust from the cut bone from mingling with the contents of the cavities; and there could be no doubt of the existence of the caseous matter; a circumstance which had been called in question in similar cases.

The boy had been totally deaf, and the case showed the impossibility of curing congenital deafness by means that were sometimes adopted.

Paralysis of both Sides.

Dr. Sutherland mentioned a case of paralysis of the motor nerves of both sides of the body. The patient, a man about 45 years of age, was affected about eight months ago with numbness of the fingers of the right hand, on account of which he became a patient at the North Dispensary. Within two days of the commencement of the disease the fingers of the left hand were affected in a similar manner. On the day following the paralysis commenced in both feet at the same time: it then extended simultaneously up the arms and legs, so that within a few days the patient was deprived of all power of motion except in the muscles about the head and neck.

He had slight pain of the head at first, which soon went away; and there was no tenderness over any part of the spinal column. For a day or two there was double vision: this too disappeared; but the sight was impaired for about two months afterwards.

The hearing, taste, and smell, were in their natural state, and there was perfect sensation over all the parts affected by the paralysis. The speech and deglutition were unimpaired, and the respiration and circulation unaffected. The bowels acted naturally, and also the sphincters, except that he passed his urine involuntarily for a short time. The patient remained in this state for nearly four months, since which he has been gradually recovering, though much more rapidly in his inferior extremities than in his arms. He can now walk four or five miles at a time, and can raise weights with either arm, although he is unable to resume his employment.

Rupture of the Meningeal Artery.

Mr. Banner related the case of a man who came to the North Hospital on account of his having received a fall on his head. In a short time he felt so far recovered as to express a desire to walk home. The house surgeon advised him to remain a little longer, which he did; and about three hours from the time of his admission he was found comatose. On examining the head, a long narrow swelling was observed extending from the occiput forwards. An incision was made into it, from which a quantity of blood flowed, and a fissure was discovered extending the length of the swelling. The trephine was applied, and about two ounces of coagulum escaped from the opening: when the dura mater was depressed by the finger, profuse hæmorrhage took place from the interior of the cranium, which ceased when the finger was withdrawn. The patient died comatose, and on dissection a counter fissure was found extending across the temporal bone; and the meningeal artery was torn through, and presented an open mouth, from whence the blood had flowed. The peculiarity of the case arose from the circumstance of several hours having elapsed from the time of the receipt of the injury before the coma set in.

Mr. Banner in the Chair.

Abscess within the Pelvis.

Mr. Wainwright read a paper on "abscesses forming within the pelvis after labour." He related eight cases, in all of which extensive collections of matter had formed and been discharged: some at the groin, others by the vagina and bladder, and in one the matter had passed through the walls of the uterus, and from the uterus through the vagina. This was the only fatal case, the remainder having recovered perfectly after a longer or shorter interval. Several of the patients have had children since, and all such had experienced good recoveries. Mr. W. stated that he thought these cases ought to be regarded as having an intimate connexion with the puerperal state; that he considered the cellular membrane of the pelvis as the seat of the abscesses; that he believed the disease to appear chiefly under two forms, in one of which the inflammatory action commences primarily in the cellular tissue, and in the other primarily in the uterus and its appendages, and is thence communicated to the cellular structure. The symptoms and treatment were then spoken of, and the paper concluded by calling the attention of the meeting to the fact that seven out of eight severe cases of this disease recovered.

Disease of Ear extending to the Brain.

Mr. Banner stated a case occurring in a child 2 years old, which had suffered from hæmorrhage from the ear during an attack of hooping-cough. This was succeeded by inflammation and suppuration, which recurred from time to time; and five months after, the child became affected with paralysis of the portio dura of the same side. At this period the suppuration had stopped; it was again restored by poultices, and the paralysis disappeared. The child next

became comatose, and died in convulsions. On opening the cranium the dura mater covering the petrous portion of the temporal bone was found discoloured, and there was effusion of lymph between the arachnoid and pia mater in the vicinity. On cutting through the dura mater an abscess was found involving the whole structure of the internal ear, which was destroyed by caries.

Mr. Neill exhibited a fragment of the breach of a gun weighing two scruples, which he had extracted from the eye of a boy: it had been forced in by the bursting of a gun, and had cut through the upper eyelid, and destroyed the eye. Great inflammation and suppuration ensued, and the boy was brought for advice twenty-four days after the accident. The case recovered well.

DUBLIN UNITED MEDICAL CLUB.

[We have been requested to give insertion to the following letter addressed "To the Editors of the Dublin Medical Press;" who, it is proper to observe, however, have themselves published it in their number for February 5th.—Ed. Gaz.]

Merrion-square West, Jan. 25, 1840.

Gentlemen,—In the last number of the *Medical Press* there is a letter from Mr. Carmichael, containing some observations on the United Medical Club. From the general tenor of that letter, Mr. Carmichael appears to coincide with you in the view in which you have represented that Club, viz., that it is a Society got up for the purpose of upholding certain parties or opinions on the subject of Medical Legislation. Although having no further connexion with the Club, than as being a private member of it, still as long as I am a member, I consider myself identified with its principles, and responsible for its acts, and I therefore think it due to myself, and to my fellow-members of the profession, to offer the following explanation of the objects of the Club, and of the motives which have influenced others and myself to become members of it.

The want of a tie to bind together the members of our profession has long been felt—of all professions, ours probably stands most in need of the tie of social relation between its members. The United Medical Club will be, I believe, the medium of diffusing that kindly social relation which is the best aid in maintaining and cherishing mutual good feeling. The benefit of a social junction of persons following the same pursuits, is so obvious, that there is not a trade or profession, save ours, without it. With the object of attaining such a benefit, and with no other, have many, with myself, become members of the Club; and now, when we are on the eve of enjoying the advantage of so obvious a benefit, it is deeply to be regretted that mistaken views should be propagated. I would not continue for one hour a member of the Club, if it were possible, that, in becoming a member, I compromised my opinions on any subject. The United Medical Club has no more to do with a man's opinions, on medical affairs, than it has to do with his principles in religion, or his bias in politics.

Mr. Carmichael appears to lay great stress in his letter on the resolution proposed by Doctor Apjohn being rejected, which was to the effect that the list should lie open for a fortnight to all members of the profession who might wish to subscribe their names as members of the Club. Surely a moment's reflection will convince any one, that such a resolution, if carried, would subvert the very constitution of the Society, for those whose personal attributes might render them objectionable as personal intimates, would certainly be among the first to eagerly avail themselves of such a privilege to obtain admission. Mr. Carmichael may, perhaps, forget, that he himself sanctioned, on a former occasion, the possession of the power of exclusion, which he in his letter blames the Club for having claimed. At the meeting of the Medical Congress, held in the College of Surgeons in May last, Mr. Carmichael in the chair, the resolution was unanimously passed, that into the medical union proposed to be formed, those only should be admitted who "can produce evidence of an irreproachable moral and professional character."—(Vide *Medical Press*, June 5th, 1839.) If the power of scrutiny into personal character as a check on admission was deemed justifiable and necessary in the constitution of a corportaion, of which the majority of the members would probably never even see each other, surely the same principle is much more imperatively called for in the formation of a Society, the members of which must constantly meet on habits of personal intimacy.

In another part of this letter Mr. Carmichael observes, that at the first meeting of the Club there was but a thin sprinkling of medical reformers; and hints, that the omission of invitations to them was intentional. I have looked over the list of members of the College of Surgeons, given in the *Medical Press* of July

24th, who are classed as reformers, as having vsted with Mr. Carmichael at a meeting of the College, held July 19th. Mr. Carmichael's name is at the head of the list, which contains 26 names; of those 26, I can now, even on memory, recal at least 16 whom I saw at the first meeting of the Club; while, on the other hand, I have since learned, that some of the most active opponents of Mr. Carmichael's opinions were not invited to that meeting. This does not, I think, bear out Mr. Carmichael in his supposition, that there was an intentional admission, or omission, of certain parties. Of the arrangements under which invitations were issued, I know nothing; nor was I aware of the first meeting of the Club, except through the printed circular requesting my attendance. Those facts which I have mentioned, I have since learned, altogether through my own desire to ascertain whether there was any ground for Mr. Carmichael's supposition.

It has also been represented that all who hold certain opinions on questions of medical legislation would assuredly be black-beaned if proposed for admission. The truth of this representation can be at once tested. Let all or any of those holding—no matter how extreme or widely-differing opinions on questions of medical legislation—send their names to be balloted for. If rejected on *no other* obvious and manifest objection, than their opinions on such a subject, their rejection would be no disgrace; so that no one need shrink from the test: and the result of such rejection (supposing it possible) would be the immediate dispersion of the Club: for no one even pretending to independence could remain a member of a Society that would presume to control freedom of opinion.

It has also been argued, that the members of the Club are opposed to any legislation that might benefit the bulk of the profession, because medical reform is not specified to be one of the objects of the Club. It might as reasonably be argued, that the members are opposed to the advancement of chemistry, because experimental philosophy is not specified to be one of its objects.

The Club, as, I believe, all members of it view it, is formed for one, and only for one, purpose—viz., the promotion of mutual support and good feeling; and all who earnestly desire the attainment of these objects, must accord, that to render the Club efficient for its purpose the most rigid precaution ought to be exercised to exclude every subject that could by possibility furnish ground for dissension, or even for discussion; and of all subjects likely to create dissension is there any to be compared with medical politics, on which the great difficulty is, to find any two persons who do not disagree?

The Club, as at present constituted, is a neutral ground, where members of even rival Universities and Colleges may meet to promote objects beneficial to all; and I trust that a calm review of the principles on which the United Medical Club is founded, and the importance and obvious benefits of the purpose to which it is devoted, will convince those who may be hostile to it from the influence of prejudiced representations, that there never was a Society better adapted (in the words of its first resolution), "To promote good feeling, and the honour and respectability of the medical and surgical professions."

In conclusion, I have only to say that I have not communicated on the subject of this letter with any one, and that I have written these observations and explanations, because, even though no more than a private member of the Society, I cannot be content to submit to the continued propagation of imputations, which, I am certain, have no fair foundation.

I am, Gentlemen, yours, &c.,

D. J. Corrigan.

[A copy of this letter was sent to Doctor Maunsell, one of the Editors of the *Medical Press*, on Monday morning, 27th January, with a note, requesting to know if he would give it insertion. To repeated application up to this date, Friday, January 31st, that he would either return the manuscript, or give a definite promise of publication, I have not been able to obtain a satisfactory reply, and I have therefore thought it advisable to adopt the present mode of publication.]

BIOGRAPHICAL SKETCH OF ITARD.

John Mark Gaspard Itard was born in 1775, at Oraison, a small town in Provence, now in the department of the Lower Alps. At the age of seven he was sent from home to his uncle, who was a canon of the cathedral at Riez. He began his studies at Riez, and completed them at Marseilles, under the *Oratoriens*. When his education was finished he returned to Riez, where he spent two years more.

His father intended him for business, and, to inspire him with a taste for it, placed him in one of the greatest banking-houses at Marseilles, hoping that the sight of opulence would have more influence than his words upon a young man. This was at the end of 1791. The French

revolution, which had begun under the happiest auspices, was now effecting its useful reforms; but the tempe began to lower; all Europe was speedily in arms; and France, alarmed for her liberties, called every Frenchman between 18 and 25 to her defence. Itard was now nineteen: what was he destined to become? Take courage: his father and his uncle watched over his safety. Before thinking of the salvation of their country, the two brothers reflected that they had but one son, a son who must be saved, at any cost, from the risks of war. Toulon had just been betrayed to the English, and the military hospital, transferred for the time to Soliers, was managed by a citizen of Riez. The Abbé Itard knew him, and sent him his nephew that he might be employed there—though he had never set his foot in an hospital, and never opened a medical book. He was not disappointed; Itard was employed as a surgeon of the third class, and this office shewed him what his vocation was.

An expedition being now designed against Corsica, Larrey was appointed the surgeon in chief, and was sent in that capacity to Toulon. Previously to his embarkation he gave lectures on anatomy and surgery; Itard attended them diligently; his industry was remarked, and when Larrey returned to Paris in 1796, Itard was placed under him at the Val-de-Grâce. The great teachers of medicine at that time were Pinel and Corvisart. Itard enrolled himself under the banners of the former, and even at the end of his career the impression produced upon him by reading the *Nosographie* was not yet effaced. He loved to recal the contests which he had sustained for the doctrines of his choice; but age, in bringing his reason to maturity, had remarkably cooled his enthusiasm for the work, without diminishing his gratitude or his admiration for the author.

After resigning his situation at the Val-de Grâce, he was appointed physician to the Asylum for the Deaf and Dumb. The institution was then directed by the Abbé Sicard, whose name has been inscribed by science and charity among the benefactors of the human race, by the side of the Abbé de l'Epée, his illustrious predecessor.

The deaf and dumb are, in some sort, isolated in the midst of their fellow-creatures, and live like exiles in their own country. Every one knows the efforts made by the genius of a priest, inspired by misfortune, to restore these unfortunate beings to society, from which nature seems to have separated them. Itard entered into all these philanthropic views; but his notions concerning the deaf and dumb were those popularly current; he wished to become thoroughly acquainted with them, and for this purpose he lived among them.

This study was new to him, and he pursued it with all the ardour of a character which difficulties do but stimulate. The rapidity of his progress explains the choice made of him on a memorable occasion.

A child, 11 or 12 years of age, who had been seen some years before in the woods of Caune, was met exactly in the same place, towards the end of the year VII. (1799), by three sportsmen, who caught him just as he was climbing a tree to escape them. Being taken to a neighbouring hamlet, and confided to the keeping of a poor woman, he escaped to the mountains, where he wandered during the severest winter weather, with only a ragged shirt to cover him. At night he retired to some solitary spot, and in the day approached the neighbouring villages, until one day he entered a house in the canton of St. Sernin. There he was again taken, and transferred first to the *hospice* at St. Afrique, and then to the one at Rhodez.

M. de Champagny, one of the ministry, and a friend of the arts, thought that this child might be interesting as a moral problem, and ordered him to be sent to Paris. He arrived there about the end of the year VIII. under the care of a worthy old man, who loved him like a son; for he refused to leave him except on the condition that if society ever abandoned him, he should be allowed to take the child again, and be as a father to him.

The Aveyron savage (for he was thus named) was placed at the Asylum for the Deaf and Dumb, under the care of Itard.

He devoted four years running to the education of the child, and if we recollect that he was then only five-and-twenty, we must allow that it is unusual at such an age to find so much perseverance united to so much imagination. His only fault was in thinking too highly of his pupil; but even this shows how good his method was. Let us, therefore, not regret a fault too much, which obtained us the plan of an education of which no model was previously in existence. But let us be assured of the truth that there are no wild men in nature; they exist only in books, and in the imagination of philosophers. What, then, it may be asked, were those men who have been found in woods, and so emphatically exhibited to public curiosity? They were, answers M. Esquirol, idiots who had run away, or been abandoned by their parents. The report of this incident carried the name of Itard all over Europe. The Emperor of Russia, renewing the example of Louis XIV., sent him a very valuable ring. When the ambassador

gave it to him, he made him the most tempting offers if he would settle at St. Petersburgh; Itard politely asked for time to consider of it, but he was determined to remain faithful to his country.

After having devoted the first years of his youth to metaphysical and physiological speculations, Itard felt that it was time to think of the practice of physic. He presented himself with a name already known—an immense advantage. In a short time he had a large practice. To be nearer his patients he took rooms in the centre of Paris, where he came every morning, and returned every evening to the Faubourg of St. Jacques. Thus the deaf and dumb were always the first objects of his care, as they were the last thought that occupied his mind.

When he accepted the honour of being their physician, Itard did not conceal from himself the engagement which he had undertaken, an engagement the more sacred in his eyes, as we possessed nothing, or next to nothing, on the diseases of the ear.

Duverney, indeed, whose name cannot be pronounced without recollecting that he had the honour of teaching anatomy to the great Bossuet, published a small duodecimo volume on the organ of hearing; but he considered his subject rather as an anatomist than a physician.

Cruka did for deafness what he did for amaurosis and for tympanitis; he took from ancient and modern authors all that he thought suitable, without adding any thing of his own.

As for general systems of medicine, which were naturally less in advance than monographs, they did not deign to speak of diseases of the ear, or spoke of them only to make us feel our ignorance. M. Alard, surprised at this contempt for so interesting an organ, chose catarrh of the ear for the subject of his inaugural dissertation, and treated it in such a manner as deservedly to obtain the approbation of Itard; but, after all, this was only one point in a great question. Such was the state of the science in 1821, when Itard published his treatise on the diseases of the ear and of hearing. The reputation of the author was a guarantee of the success of the work; yet Itard showed a great want of confidence. Before publishing the book he wished to assure himself of the public taste, by some fragments which he inserted in the medical journals. And, though he had reason to be satisfied with the experiment, he still hesitated, so that the entire work would probably have never seen the light, had not friendship done violence to modesty. Itard was one of those uncommon men who still preserve the laudable custom of maturing their thoughts before they publish them.

There are three distinct parts in the *Traité des maladies de l'oreille et de l'audition*. The first, which is purely anatomical, is substantially no more than a critical compendium of the labours of Valsalva, Soemmerring, Scarpa, Cotugno, Geoffroy, Cuvier, Ribes, &c. It was the most complete summary that we had, before the splendid researches of M. Breschet, on the ear of man and vertebrated animals.

In spite of so many laudable attempts, Itard is persuaded that physiology is not better acquainted with the use of the different parts of the ear than in the time of Galen. He thinks that this complicated organization is nothing more than the means of transmitting the undulations of sound. Nay, in one of those moments of depression, when the human mind is overwhelmed by the consciousness of its weakness, he predicts that we shall never know more about it. Away with these imprudent predictions! there is no sadder philosophy than that which, by depriving man of the consciousness of his powers, extinguishes all emulation, and condemns him to eternal ignorance.

As to the diseases themselves, Itard distinguishes those of the ear from those of hearing, though he knew the criticism that this would draw upon him. Sound logic, indeed, refuses to separate functional injuries from injuries of the tissue; but what reason condemns as a principle, reason sometimes allows in practice. There are symptoms so prominent, and the cause of which is so obscure, that physicians are accustomed to consider them, provisionally, as diseases. This has been the method of the greatest practitioners; Itard followed it, being authorised not only by example, but also by the novelty of his subject.

Whatever opinion may be held concerning the treatise on the diseases of the ear, no one can deny its author the glory of having enlarged the domain of the knowledge of the maladies of an organ hitherto almost entirely passed over. I am aware that severe critics blame its classification; that they think the species too numerous; and say that the descriptions are not all equally clear and precise. I do not disguise these blemishes, for if death has its rights, science has also hers.

But the pleasure of criticising must not make us shut our eyes to the merits of one of the most remarkable productions of our time. It contains nearly 200 cases, and almost all of them are interesting. Such is, among others, that of a woman, who, being frightened by a fire, had an almost continual buzzing in her ears. After having consulted several physicians without advantage, she came to Itard. He saw that the sense of hearing was deceived by the imagination, and desired her to

lodge near a great workshop, hoping that the ear, when assailed by new sounds, would recover all its faculties, through the strength and even through the confusion of its impressions; and this took place. It is thus that to extinguish one passion, morality sometimes advises that another should be brought into being.

Itard was persuaded that the ear, like weak limbs, might be strengthened by exercise, and this he called the physiological education of the ear. This idea occurred to him as long ago as 1805; dates are here of importance, as it has been attempted to deprive him of this honour. The first results are generally fortunate and speedy; and the relations flatter themselves with the hope of a complete and early cure. But the improvement soon stops, and as the ear never succeeds in catching the intonations of the voice, the speech always remains limited, rough, and without expression. The half-deaf are always half-dumb; they speak, but they do not converse; for conversation is a music of the most delicate kind, the notes of which, now high, and now low, require a fineness of hearing which they do not even approach. Unconscious of all that is said around them, they feel themselves constantly recalled to their companions in misfortune, with whom they can at least interchange thoughts with facility. But it is in vain that they fly from the mass of society which speaks; they are born in it, and must live there; a fortunate necessity compels them to have recourse to speech, from the interest they feel in making themselves understood.

Itard wrote several memoirs on pneumothorax, stammering, intermittent fevers, &c. He added notes to a translation of Wich on Hygiene, and composed the article on Dropsy for the *Dictionnaire des Sciences médicales*.

Having retired from practice in town, at an age when others are just entering it, Itard only saw the patients who went to the Faubourg of St. Jacques. They were mostly deaf persons, and the concourse was often so great, that they were obliged to put down their names and wait for their turn; but it is true that he only saw them for a few hours in the morning.

Itard left a thousand francs (£40) a year to the Academy, to found a triennial prize for the best memoir on practical medicine, or the application of therapeutics, and he has wisely ordered that no work shall be admitted to the competition unless it has been published at least two years; thus making time a guarantee against the illusions of experience. His bounty to the deaf and dumb was greater, as was just. The very good that he had done them made them more dear to him. Being mortified to see that at the end of their course of study, after having passed six years in the institution, they were not able to read the majority of works in our language so as to understand them perfectly, he founded a new class, the principal object of which was to teach them this reading, and thus to make them able to continue their own education. He left 8000 francs (£320) a year for this useful purpose; and as an additional benefaction, he regulated the basis of this education according to the knowledge obtained by forty years' observation of the deaf and dumb. At the end of his career, the sentiments of piety which he had imbibed from his uncle returned, more warm and lively than ever; he asked for the consolations of religion, and in asking for them, he did not wait until he was unable to feel or relish them.

He died on the 5th July, 1838.

Itard wrote with great difficulty. He had not the art of expressing his meaning at the first attempt, and when he had succeeded in embodying his thoughts, the manner cost him as much labour as the matter. He altered a phrase again and again, till he found one exactly appropriate; but this toil was crowned with such success that he is one of the best writers in the whole range of medical literature.

Itard was of ordinary stature, but infirmities had bent his body before the approach of age. His animated and expressive features resembled those of Henri IV. so that artists were struck by the similarity. It is said that in his youth he was very cheerful; if so, isolation and disease had singularly ruffled the evenness of his temper. In speech he was short, and sometimes even blunt; but the most sensitive and loving mind was concealed behind this exterior.

Itard lived and died a bachelor. In his last moments he had a nephew with him, whom he regretted not having known earlier. He bequeathed him his library and the example of his life.—*Abridged from the Gazette Médicale of Dec.* 21, 1839.

MORTALITY FROM PHTHISIS AT NAPLES.

In a late number of the *Filiatre Sebezio*, M. de Renzi controverts the conclusions concerning the mortality by phthisis at Naples, to be found in a paper presented by M. Journé to the Academy of Medicine at Paris. The sum total of phthisical patients received into the Hospital of Incurables during the years 1835, 1836, and 1837, is reduced by M. de Renzi from 2,969 to 2,775; and he shews that of this number only 1,846 belonged to Naples and

its suburbs, the rest consisting of strangers who come to die there. This gives an average of 615 instead of 989, which was M. Journé's supposition—a considerable difference, particularly if the probabilities of medicine are to be based on figures. Then, subtracting the catarrhal affections, or those which resemble phthisis, M. de Renzi fixes the number of phthisical patients at 600, which, in a population of 400,000, gives one in 666. We must add, however, 200 patients belonging to the middle and upper classes, which will make 800; and of these 560 die—or 70 per cent. But, as the ordinary mortality is 13,000, the proportion of deaths from phthisis is about 1 in 23.

Double the number, if you like; will this come up to the proportion of consumptive patents who die in Paris, London, and other towns?

The mean mortality at the Hospital of Incurables is 1800, and the number of deaths among the phthisical patients belonging to the town is 430; so that these deaths form a quarter of the total mortality in the institution. But, if we consider, first, that at Paris more than a third of all patients are treated in the hospitals, and hardly a fifth at Naples; secondly, that at Paris the number of consumptive patients received is equal to those suffering under other diseases, while at Naples the latter are much fewer in proportion*, it will be allowed that a comparison is difficult. This being settled, if in the hospitals of Paris, as Bayle has demonstrated, and M. Journé laid down, one-third of the patients die of phthisis, and this number is more than a third of all the deaths in the whole town; if, on the other hand, in the hospitals of Naples, less than a quarter of the patients die by phthisis, and if, even adding the patients who do not belong to the town, we do not reach a third, as at Paris; if the phthisical patients in the hospital include nearly all in the town, while the deaths in the hospital are but a sixth of the general mortality, it necessarily follows that the patients who die of phthisis are in proportion to those that sink under other diseases, as 1 to 4 at Paris, and 1 to 12 at Naples†. Hence the climate of Naples, far from favouring the development of the disease, makes it rarer than it would naturally be in a town of small size relatively to its population, who are, in consequence, crowded. If we consider, moreover, that scrofulous affections are very common there, we must necessarily conclude, that the number of consumptive patients does not exceed the natural proportion to those afflicted with scrofula. As to the important question whether a phthisical patient from a cold or northern climate may experience benefit in a more temperate one, M. de Renzi answers it in the affirmative, and says he knows it practically, as well as from theory. But if the disease has already made great progress, if the disorganization of the lungs is much advanced, and the tubercles have begun to soften, of what use is a southern climate? In such cases, the poor patient travels but to perish on a foreign shore, far from his relatives and friends.—*Gazette Médicale*, Dec. 20, 1839.

* So in the original, though the reverse is probably intended.—*Translator.*

† We do not see how these conclusions can be drawn from the premises. If at Naples the hospital deaths are equal to a sixth of the whole mortality, and the deaths from phthisis in the hospitals are less than a third of all the deaths that occur in these institutions, then the hospital deaths from phthisis are less than one-eighteenth of the total mortality; and as "nearly all" the deaths from phthisis are in the hospitals, the proportion cannot rise to one in twelve. The Parisian proportion is still more applicable.—*Transaltor.*

WEEKLY ACCOUNT OF BURIALS.

From BILLS of MORTALITY, *Feb.* 4, 1840.

Age and Debility	40	Inflammation	15
Apoplexy	5	Bowels & Stomach	6
Asthma	6	Brain	4
Childbirth	5	Lungs and Pleura	5
Consumption	40	Insanity	2
Convulsions	26	Liver, diseased	3
Croup	1	Measles	3
Dentition	2	Mortification	1
Dropsy	8	Paralysis	3
Dropsy in the Brain	7	Rheumatism	2
Fever	4	Small-pox	2
Fever, Scarlet	6	Thrush	2
Fever, Typhus	2	Unknown Causes	86
Hæmorrhage	1		
Heart, diseased	5	Casualties	11
Hooping Cough	7		

Increase of Burials, as compared with the preceding week . . . 54

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

	Thermometer.		Barometer.	
Jan.				
Thursday . 30	from 28	to 42	29·84	to 29 64
Friday . . 31	38	45	29·49	29·50
Feb.				
Saturday . 1	29	46	29·33	29·06
Sunday . . 2	36	47	29·27	29·13
Monday . . 3	40	48	29·17	29·14
Tuesday . . 4	38	47	28·69	28·61
Wednesday 5	39	46	29·01	29·45

Winds, S.E. and S.W.

Except the morning of the 2d, and afternoons of the 3d and 5th, cloudy, with frequent showers of rain. The Barometer remarkably low on the 4th.

Rain fallen, ·825 of an inch.

CHARLES HENRY ADAMS.

ERRATA.—In Sir C. Scudamore's paper, in our last No., p. 755, line 7, *dele* "for;" p. 756, note, line 6, for "disorganizable," read "inorganizable;" p. 758, two lines from the bottom, *dele* "in order."

WILSON & OGILVY, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, FEBRUARY 21, 1840.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.
Surgeon to the St. Marylebone Infirmary.

Poisoned Wounds. — *Insects—Serpents—Viper—Symptoms—Treatment.*
Dissection Wounds.—*Symptoms—Treatment.*
Rabies. — *Nature—Symptoms—Diagnosis—Treatment.*

POISONED WOUNDS.

In the wounds which we have already considered, there was a more or less direct relation between the extent of the wound and the symptoms produced; but, in those we are about to discuss, the apparent injury is insufficient to explain the symptoms and accidents which may supervene. The traumatic cause is here a secondary one; the agent which is inoculated plays the principal part. The symptoms being dependent upon the introduction of a poison into the animal tissues, and its subsequent absorption, by which the system is subsequently affected, the indications follow pretty clearly. Prevent the introduction of the poison into the circulation; neutralize it locally; and combat the symptoms when it infects the system. The first object may be accomplished to a certain extent, when a limb is the seat of injury, by the application of a circular ligature between the wound and the heart; by suction, or cupping-glasses at the part. The second may be attained by excision or cauterisation of the part. The third by tonics, diffusible stimuli, or narcotics, according to the particular condition of the patient. Many experiments have been made to prove, that a circular ligature will considerably retard the introduction of the poison into the system; but suction is, no doubt, more efficacious. Formerly, in armies, persons were specially retained for the purpose. For many years the method was abandoned, until Sir D. Barry proved by experiment that successive cupping-glasses applied over poisoned wounds, in many cases effectually prevented absorption. It has also been proved, or at least apparently so, that suction by leeches is efficacious. Moricheau Beauchamp applied successively six leeches on a viper bite; the first five died immediately, the sixth survived after having extracted more blood than his fellows. However, the only advantage which I can concede to the ligature is, that it gives a little time for preparing more efficacious means; and with regard to suction, in very serious cases it will often fail. When it can be done, excision promptly performed is a more certain mode of treatment; but where it cannot be done, cauterisation, either with nitrate of silver, or butter of antimony, introduced with a camel-hair pencil, caustic ammonia, caustic potash, or the actual cautery, may be employed. To facilitate the use of caustics it is often necessary to pare down the inequalities of the wound, so as to ensure application over the whole surface. If this be done effectually, before absorption has commenced, it is one of the most certain preservatives that our art possesses. If, however, absorption occurs, general treatment is necessary; but it must be varied with the effects of the poison—which may be deleterious from its quantity. It is a highly septic agent; re-action does not come on, prostration is great. Here, stimuli, such as brandy, camphor, ammonia, must be administered; but some local means must

also be used; at the wounded part there may be œdematous swelling, there may be lividity, then stimulating applications are necessary. The septic agent may be less in quantity, and there may be a good deal of local and general reaction, and antiphlogistic means may be necessary. The quantity of poison may be too great to occasion purely inflammatory symptoms, not enough to produce prostration, and the symptoms may be of a mixed character—partly sthenic, partly asthenic. In this case, the treatment should be neither purely stimulant nor purely antiphlogistic. Whatever mode of treatment may be adopted, it must be borne in mind that the agent we have to struggle against is a septic poison, and that we cannot hope, even though the symptoms appear purely inflammatory, to see them yield as easily as in ordinary inflammation.

The wounds I propose to consider are those of bees, those of vipers, those produced by rabid animals, and those occurring in dissecting dead bodies.

Insects.—When a bee or a wasp stings, if it be rudely removed, the sting remains in the wound, which is characterized by a sharp, burning pain, a small, round, hard, circumscribed elevation of the skin, with a diffused red, or erysipelatous areola, surrounding it. These symptoms usually soon disappear, and all that remains is a small tumor, which soon becomes pale, and is resolved. No febrile action usually accompanies it, unless when it affects particular parts. In these small wounds the pain depends less upon the puncture than upon the venom which is deposited. Experiments have shewn, that if the poison vesicle be excised, the sting may be inserted without pain. We know nothing of the nature of this venom; it is neither acid nor alkaline, and applied upon mucous surfaces it excites no disagreeable sensation. But if the sting meets with a nervous filament, very acute pain may follow. Cabanis once saw a case where a lady was stung by a wasp on the back of the middle finger of her left hand; the pain was extremely intense, and in a few moments the whole body was tumefied, the skin became red, and violent fever was developed; the hand was put into a mixture of oil and tincture of opium: in a few hours the fever, redness, and general tumefaction subsided, and, by the fourth day, all that remained was a small black point at the seat of the puncture. Loss of life, however, every now and then succeeds to these injuries, even in our own country. A whole hive may attack a person, stinging him about the eyes and mouth, and he may fall a victim to the irritation. A man may put an apple into his mouth, in the substance of which is a wasp; he may be stung about the fauces, great tumefaction comes on, respiration is interrupted, and he may die in a few hours. Usually, cold water, oily embrocations, the blue-bag, or eau de luce, quickly cure these injuries. If in a young child, there be many bites, and the excitement be very great, a little blood may be taken away, and carbonate of ammonia may be given internally; but these are very rarely called for.

Bites of Serpents.—With the serpents of warm climates we have nothing to do; if it should be the fate of any one of you to become the denizen of a country where such reptiles are found, you will there learn the most approved means of treating the wounds they inflict. Certain of the serpents of India and America produce wounds which are quickly mortal. An Indian knows, that if the cobra di capello wounds a blood-vessel, he has nothing for it but to lie down and die; but if it does not wound a vessel there is hope: the polygala, ammonia, and arsenic, will, it is said, sometimes save life.

Viper.—Of all the venomous reptiles of Europe, the viper is the most dangerous. His upper jaw is furnished with two moveable teeth, or fangs, as they are termed, very sharp at their point, grooved longitudinally, and having, in intimate relation with their roots, two vesicles, or "poison-bags." When the animal is irritated, the teeth are pressed against these bags, the fluid exudes, and their poison flows along the gutters which the teeth present, into the wound which they make. The danger of the bite depends upon the excitement of the animal; for, as he bites with more violence, the vesicles are more strongly compressed — upon the time which has elapsed since a previous bite—upon the size of the animal bitten. In other words, the danger mainly depends upon the quantity of poison inserted. Fontana made many experiments on this subject; he found that the bite of a single viper was enough to kill a pigeon, or any animal of similar size; therefore, he argued that the bite of many would be necessary to destroy a man; a still greater number for cattle; but, he said, the peril is greater if the animal bitten be much alarmed. Of the many cases Fontana saw and heard of, he only knew two in which the bite had been fatal. I knew one case; the patient was a pilot, a very powerful man, not quite 50 years of age. He was walking by the side of a river, on the banks of which he lived. The day was a bright sunny one, at the latter end of May. He was passing over a style; his hand was upon it, but his eyes were directed to some object on the river; he

found his hand pricked, as he supposed—he suddenly raised it, and to his horror found it had been resting upon a coiled viper, which had bitten him; he died in four days. In the *Annales du Cercle Medicale* is the case of a woman who sat upon a viper; it bit her in the thigh—she could get no assistance for an hour, and died in thirty-six. It is, therefore, necessary to treat these wounds as if they may terminate fatally.

Symptoms.—The symptoms are usually a sharp pain at the part, with numbness, which rapidly extends. An inflammatory areola surrounds the wound; sometimes small phlyctenæ are developed; considerable tumefaction soon occurs, which extends to the whole limb, or even the whole body. After a time the pain lessens, the tumefaction becomes œdematous, livid spots are presented along the limb, and it sometimes becomes gangrenous; but in the greater number of cases, even without medical treatment, the symptoms subside, though slowly. The general symptoms are, a hard and frequent pulse, an injected face, a fixed and haggard look, a dry tongue, intense thirst, occasionally delirium, syncopes, cold sweats, icterus, vomiting, very fetid alvine evacuations, and acute pain about the umbilicus. These symptoms are often very rapidly developed, but their intensity is found to vary with the age and the moral condition of the patient. Fontana attributed to terror the syncope and other nervous accidents, as well as the deaths, which have happened. The alarm of a person who sees, at the same moment, a viper and his own blood shed by it, may have considerable effect; but all the nervous derangement cannot fairly be referred to it.

Treatment.—Applying our general principles of treatment, if the wound be in a limb, the ligature may be applied, if absorption have not taken place; but, recollect, this will not infallibly prevent it. Cupping-glasses may also be applied. We may even apply leeches, in the hope that they may extract the poison: but we must also use caustics in the way we have already described: the limb may be rubbed with the linimentum ammonia, and carbonate of ammonia may be exhibited internally. What is essential is the prompt application of remedies. To prevent the absorption of the venom is a much surer way of averting danger than neutralising its action, when its effects are extended to the system. If, however, we fail in doing this, we must seek to subdue the general symptoms. The Royal Society, and the celebrated Bernard de Jussieu, proposed olive oil and the volatile alkali as specifics; and, among the examples in favour of their efficacy, is that of a "viper merchant," who never cared for their bites; if he were bitten, he bathed the hand with olive oil, and drank a few ounces of the same fluid: and that of a young student who, in a botanical excursion, was bitten: having no other remedy at hand, De Jussieu poured a few drops of eau de luce into the wound, and gave him a tea-spoonful of the same medicine in water. Bark, opium, and such substances, are used. If, however, the symptoms be inflammatory, antiphlogistic means will be necessary. Blood-letting is rarely necessary; if used at all, it should be done sparingly, and not repeated without much caution.

DISSECTION WOUNDS.

The taste for pathological investigations so very generally diffused in the present day, renders the occurrence of these wounds more frequent than they were formerly. I include, among these wounds, not only those made with a scalpel impregnated with a septic fluid, those to which students are exposed while engaged in dissecting bodies in which putrefaction is far advanced, but also those made on examining the bodies of patients who have died of contagious diseases, as well as those who have died from particular inflammations of serous membranes. Very often these punctures are attended by no bad effects. When the patient is strong and vigorous, a small inflammatory ill-defined pustule may be developed at the point; suppuration occurs, the purulent fluid is evacuated, and no bad consequences follow: but when the patient is a young man, broken down by hard work, dissipation, or previous disease, sometimes no marked local symptom occurs, but, in thirty-six or forty-eight hours, he finds the axillary glands becoming painful and inflamed, and they may proceed to abscess; the little puncture re-opens, a sub-acute inflammatory action is developed around it, the whole hand suffers with œdematous inflammation; nausea and prostration of strength follow, the pulse is small and rapid, low fever sets in, and, if a depletory course of treatment be pursued, the patient may die. In some cases the inflammation is of an erysipelatous nature, passing from joint to joint, or finger to finger, until the whole hand and arm have successively suffered. In many cases red lines mark the course of irritation along the arm. These lines unite, and the whole arm assumes a dark red colour. In a large number of cases the symptoms are essentially typhoid. In some cases the disease terminates in complete resolution; at other times, there is partial circumscribed suppuration at the part and in the axilla; occasionally the dis-

ease has all the characters of phlegmonous erysipelas. It may happen that absorption will take place without apparent loss of surface, through the delicate tissue under the nails. When, from either cause, the disease is likely to be very serious, in five or six hours a red point or small pustule appears at the puncture; excruciating pains extend to the shoulder, and to the corresponding side of the chest; general prostration soon follows; in some hours the patient's condition is aggravated; the pulse is small and frequent, prostration and paleness are very marked, and more or less complete insensibility follows, with vertigo, lipothymia, and, in a few days, it may be death. In all these cases, after puncture, suction should be immediately performed: it may be wise to wait; but the moment the tenderness or throbbing is clearly perceived, many leeches should be directly applied upon the part, and Plummer's pill and quinine taken internally. If this do not cut it short, and we find subacute inflammation creeping on in the subcutaneous cellular tissue, lunar caustic should be plentifully applied upon the finger, and beyond the joint, where the slightest blush is apparent. If there be severe pain, opium must be given in sufficient doses to subdue it. Still the local mischief creeps on—the system is suffering, you should make free incisions, and exhibit brandy, ammonia, camphor, and capsicum, in sufficient doses to keep up the heart's action; for in proportion as that is subdued the mischief increases. When these severe symptoms occur, the patient is much broken down, and a very lingering convalescence follows.

RABIES.

However fearful may be the bite of the Cobra di Capello and the Rattle-snake, however rapidly they may terminate life, they inspire less terror than the bite of a rabid animal. In that state of stupor and insensibility in which it often happens that the person who has been bitten by one of these reptiles is plunged, the approach of death is less painful than in rabies, where, on the contrary, it is in the midst of intolerable pain, and the most frightful convulsions, that the patient dies. How long this disease has been known to occur in man, it is not easy to determine. Aristotle, in his history of animals, says, "That dogs are subject to rabies; it renders them furious; all animals which they bite, while in this condition, become rabid, except man." Whether at that period hydrophobia had been seen in the human subject is comparatively unimportant. Celsus describes the disease with considerable minuteness; but no work of any character appeared upon this subject before those of Andry and Chaussier in the last century. The disease which we describe as rabies is also termed hydrophobia, hygrophobia, aquifuga, phobodipsia, from the horror which is expressed at the sight of liquids. From the horror which the disease inspires in those around, it has also been termed acrophobia, panophobia, or pantophobia; others, wishing to express its ordinary derivation, have termed it cynolisson. Girard, looking at its symptoms, termed it tetanos rabien. In our own country it is usually termed hydrophobia, or rabies.

Unquestionably the most common cause of rabies is the bite of a rabid animal, and the insertion of its saliva into the wound. I give no credit to those statements of the disease being communicated by lying upon the same straw upon which a rabid animal has lain, or by wiping with a towel upon which there happened to be saliva of a rabid animal, unless, indeed, the saliva were applied upon an abraded surface. The case mentioned by Perceval, where the disease was communicated by a dog licking the lips while the patient was asleep, was, in all probability, a simple inoculation, for some little cracks are commonly found in them.

The principle of this disease, it is maintained, exists exclusively in the saliva; but the disease may occur spontaneously in certain brute animals. We shall, therefore, see whether there be any evidence in support of the opinion that it may also occur spontaneously in man; and, if so, whether the two diseases be similar. If we examine the cases of spontaneous rabies contained in works treating on this subject, it is impossible to deny that, in many of them, there is the greatest similarity between the two diseases; but there are others about which doubts might be fairly entertained.

The following cases seem to me to possess all the characters of rabies; and if their authority be admitted, and there is not the slightest reason for doubt, we must allow that the disease may be spontaneously produced. A young soldier, disgusted with his profession, avoided his comrades, and sought solitude; being in the face of a hostile army, his companions believed he was a coward, and resolved to play him a trick. They entered his bedroom at midnight, preceded by a drummer beating a charge, and crying out that the Austrians had passed the Rhine. In a moment he fell into frightful convulsions. The expression of his countenance became furious. His shrieks were fearful. In a short time they were able to quiet him a little; but he felt heat and constriction of the fauces; and when water was presented to him, convulsions came on, with an

expectoration of frothy saliva. The next morning convulsions again came on, when fluids were offered him. His respiration was hurried and irregular; his pulse was intermittent, and scarcely sensible; his eyes were sparkling, and his cries furious. This paroxysm lasted half an hour. When it was over, he complained of the horror he felt at liquids, of heat in the fauces, and great heaviness of the head; the paroxysms became more frequent and intense, and he died in twenty-four hours. He stated that he had never been bitten by any animal. The post-mortem inspection discovered nothing but a frothy mucus in the throat (Pinel). A young man had exerted himself very much for some days in a paper warehouse, when he became very hot: he afterwards, during the heat of the day, walked six miles. While he was on his journey, he sneezed continually; and when he got back, his respiration was difficult, so was deglutition; he was sad and restless; he went to bed, remained there through the next day without taking food; towards evening, respiration became more difficult, and he feared suffocation: a surgeon was called in, who bled him, and ordered a draught. This he had great difficulty in swallowing, was nearly suffocated, and his limbs became rigid. The paroxysm passed. The next morning he was bled, without relief. At eleven o'clock, when seen, he could not bear the door open, or the breath of his attendant to come upon him. His eyes were haggard, his pulse hard, and, at sight of a spoonful of water, the limbs were convulsed, and the muscles of the trunk were rigid. He tried, with great effort, but without success, to swallow a mouthful of bread. His paroxysms increased in frequency and intensity; he attempted to bite, and, in the course of the day, died. He assured those around him that he had never been bitten.

The symptoms of rabies succeeding to a bite are as nearly as possible similar. Take the following case as evidence:—"A lad was bitten, three months before, by a dog which was said to be mad, and was killed. The wound, which was on the front of the leg, soon cicatrised. At this time he dreamt he was thrown on a chafing dish; he awoke, complaining of pain in the chest, and difficulty in respiring. Next day, at breakfast, he refused to drink. In the evening of the day his countenance was animated, tongue red, pulse quick and irritable, and great restlessness, which continued through the night. The next morning the limbs were convulsed, deglutition was very difficult, there was a constant expectoration of frothy viscid saliva, dyspnœa, and constriction of the throat, haggard countenance, and a horror of fluids. He was asked whether he had been bitten; he at once pointed to the cicatrices. He was bled from the arm, the cicatrices were excised, and the actual cautery applied. The paroxysms became more frequent, and he died in thirty-six hours after the first symptoms.

After having detailed these cases, the similarity of the disease cannot be doubted; and it will be unnecessary for me further to describe symptoms: and it cannot be doubted that the disease is occasionally spontaneously produced in the human subject.

Certain animals are especially the subjects of this disease. The dog, the cat, the wolf, the fox; and they have undoubtedly the power of communicating it to many other animals by their bite—to all terrestrial mammiferous animals; but whether to birds is very doubtful. Huzard believes that herbivorous animals cannot communicate the disease; and the experiments of Dupuy seem to confirm his opinion. In England, Vaughan and Babington, in France, Giraud and Girard, have endeavoured to determine whether man possesses the power of communicating the disease by a bite: they inoculated many animals with the saliva of persons suffering from rabies, yet the disease was not developed in those animals; but against these negative results we have one positive case. In 1813, Magendie and Breschet inoculated two dogs with saliva taken from a man who died the same day of rabies at the Hôtel Dieu. The inoculation was performed on the 19th of June, and one of the dogs became rabid on the 27th of July; he bit several other dogs, who, in their turn, suffered.

Excess of heat or cold has been mentioned as a cause of the development of this disease in animals; privation of food or liquids has also been mentioned. How can the temperature cause be reconciled with the fact that the two hottest and coldest months of the year are precisely those which offer the fewest examples of the disease? In Egypt the disease is scarcely known; it is so in Southern Africa and South America; it is almost unknown in the cold of Northern Russia, and experiments have been resorted to, in which animals have been suffered to die of hunger and thirst, but they exhibited no symptoms of rabies. In fact, all is dark and obscure with regard to the exciting causes of this disease other than inoculation.

The wound made by the rabid animal usually cicatrises in about the same time as a similar wound succeeding to a simple mechanical injury, and the disease may remain dormant for many days, and even months; but usually at the end of a few days or weeks, the cicatrix becomes painful,

and the pain extends to the fauces, with a sense of constriction; at the same time there is a heavy pain in the head, the temples feel as if a string were tightly bound around them, the cicatrix changes colour, swells, ulcerates, and a reddish fluid exudes.

It is true the disease may be developed before the cicatrization of the wound; it is said that it may not occur for years, but I do not think we have any right, when years have passed away, to refer the symptoms to a bite at that distance of time. How can a virus, capable of exciting such a dreadful disease, remain so long innocently in the midst of our tissues?

As the disease in man is almost always a consequence of the bite of a dog, it is not unimportant to point out the symptoms by which the disease is characterised in that animal. At first he appears sad and depressed; lies in a corner; seeks a dark obscure place; does not bark, but frequently growls, and often without apparent motive; he still knows his master; he refuses to eat or drink; his walk is unsteady. This state lasts for two or three days; the animal then suddenly leaves his home, his head down, his coat rough, his tail between his legs, his eyes fixed and glistening, his mouth opened, and from it a viscid frothy saliva escapes; he flies at first from every object; his progress is uncertain, sometimes slow, sometimes fast. If he meets another dog, he pursues it so long as it seeks to avoid him; if he come up with it, he falls upon it and bites it. The paroxysms of fury return at irregular intervals; but in the progress of the disease the intervals become shorter, the paroxysms more intense. He then runs at every object he meets, even his master; he does not bark, his limbs are convulsed, and he dies in two or three days from the time he leaves his home. His body decomposes rapidly. In many cases the repugnance to water, usually so marked a symptom, does not exist at all.

There are certain well-marked periods in this disease; first, that of incubation from the period of the bite to that of the first symptoms; usually from thirty to fifty days: the second period dates from the occurrence of the first symptoms of pain in the cicatrix, to that when hydrophobia is manifested; usually from four to six days: the third comprehends the time between the occurrence of hydrophobia and death, or cure. In the first case it is very short, in the second it may be considerable.

Diagnosis.—The diagnosis of this disease is usually easy, though there are some diseases which bear a certain resemblance to it. Thus persons bitten by dogs which they suppose to be rabid, may present a train of nervous symptoms not unlike those of rabies. Persons who have been once the subject of rabies, have sometimes, at a distant period, suffered from a recurrence of the symptoms, though in a mitigated form. I believe cases have occurred where meningitis and tetanus have at first been mistaken for rabies; but this error must be soon dissipated. It is true that certain symptoms of rabies may occur in the course of those diseases, but then not in the same order. When the symptoms occur, and when there has been a previous bite by an animal supposed to be rabid, as well as ulceration of the cicatrix, it is scarcely possible to be in error on the subject.

The termination of rabies is ordinarily in death, whether abandoned to nature or treated by art. It has, however, been stated, that well-marked cases have spontaneously got well. But though usually fatal, the character is modified by the period of the disease when we are called on to treat it, by the extent and situation of the wounds. A rabid wolf commonly jumps at the face, and bites an uncovered part. A dog generally bites the legs, which are covered. Again, if within a few minutes a dog bites several objects, those first bitten, or who have been bitten on an uncovered part, are in most danger, because, in the first case, the saliva is in greater quantity, and is more likely to be inserted into the wound; in the second, the saliva may be small in quantity, and articles of dress may wipe it off the teeth. A small sinuous wound is bad, little blood is shed, and it is sometimes not easy to excise the whole of it. The symptoms succeed most rapidly in those cases where the head, neck, or face has suffered. As to the periods of the disease, in the first the chances of recovery are remote; in the second, still more so; in the third, escape from death seems hardly possible.

Pathological Characters. — To my mind the pathological appearances presented in rabies are quite as unsatisfactory as those of tetanus. It is true, in most cases, there is more or less inflammatory action apparent on the mucous membrane of the fauces and air passages, but this does not explain the symptoms, and much more intense inflammatory action may exist without them; besides, this condition may be a consequence of the privation of fluids. Again, in the nervous centre, we usually find congestion; but what convulsive disease is without it? It is said, that in a few cases the brain and spinal cord have been found inflamed; but then, if these were causes, they must be always found. In fact, altogether the symptoms and appearances are very similar to those of tetanus, and death occurs in a similar manner: those symptoms are nervous, it is true, but both diseases seem to

exhibit rather aberrations of function than change of structure. Chelius says, that in the vicinity of the wound the nerves and their sheaths are found inflamed. Metzger says, that the nervous matter is changed in colour; that there is inflammation of the epiglottis, the fauces, the pneumogastric, phrenic, and sympathetic nerves of the membranes of the brain, besides congestion; in some cases, inflammation of the heart, adhesion of the pericardium to the heart, the lungs inflamed, the stomach and intestines presenting gangrenous inflammation. Loeher says, in rabid dogs, which he has examined, he has found the spleen covered with vesicles filled with a pale yellow fluid. That such appearances are occasionally seen, is, no doubt, true, but certainly not with sufficient uniformity to prove that they have any thing to do as causes of the symptoms of this disease. It is held, that the virulent nature of rabies is shewn by the period of incubation which occurs before the development of the symptoms; by our being able to transmit it at will by inoculation, like variola or syphilis; but then they reproduce at the part a similar fluid to that which was inserted. We have never succeeded in producing rabies by the inoculation of the red fluid which escapes from the ulcered cicatrix. Certainly the incontrollable muscular action, the extreme sensibility of the organs of sense, would point out the nervous system as that in which changes might fairly be expected.

Treatment. — The treatment of rabies must vary with the period of the disease. If we are called in soon after the bite, we may arrest the absorption of the poison, and this is the only period in which art can interfere, with effect. It is advised, that, if practicable, a fair excision of the whole of the bitten surface should be performed;—if this cannot be done, as much as may be should be removed, the teeth punctures should be fairly laid open, and bleeding encouraged as far as possible, by sponging with warm water, for the purpose of getting rid of any virus which may remain in the wound. After this, an infinity of lotions have been employed; among them soapers' lees — the hydrochlorates—soap—the alkaline chlorides: these things are used under an idea that they may neutralise the virus. When any, or all of these means have been used, we must still employ others, to prevent the absorption of any virus which may yet remain in the wound. Suction, by means of cupping glasses, and cauterisation, which, by disorganizing the tissues, may render absorption impossible. If the wound present a tolerably regular surface, the actual cautery should be used, but if it be irregular, it will be impossible to apply the iron upon the whole of it; and as some persons are much alarmed at the idea of such a remedy, we must sometimes use caustics, such as the chloride of antimony, concentrated acids or alkalies, chloride of zinc:—but whether we use the actual or potential cautery, the wound should be made as dry as possible before it is applied. In using caustics, some persons apply them upon cotton, with which the wound is filled up, and compresses are applied to confine it there. In six or eight hours the apparatus may be removed, and a considerable eschar will be found. Some persons, after removing the apparatus, apply a blister over the part, and keep up suppuration for several weeks. Cauterisation, important as it is, cannot always be used, either from the number, or depth, or situation of the wounds. Blistering, excision, and amputation, are, then, the only remedies. A question of very serious importance now arises, up to what period is local treatment availing? The general opinion is, that local means may be employed at any period previous to the development of general symptoms of rabies;—even after the occurrence of lancinating pains at the cicatrix. Many good surgeons think it right to use those local remedies even after general symptoms are manifested: if this be done the cicatrix must be completely destroyed before cauterisation is applied.

I am disposed to doubt whether any general means of treatment will be found useful. The catalogue of remedies is quite as long as in tetanus—diaphoretics, cantharides, belladonna, mercury, camphor, ammonia, olive oil, purely vegetable diet, on the principle that the disease seems less active in herbivora; and no opportunity should be lost in endeavouring to dissipate from the patient's mind the idea that the animal by which the bite was inflicted was rabid. Vendt recommends a particular plan of treatment to which "184 individuals bitten by rabid animals have been subjected—of whom two only died of rabies." The wound is washed with a sponge and warm water; it is then filled with powdered cantharides; over this a blister must be applied, extending on all sides half an inch beyond the wound; through day and night, everyfour hours half a grain to a grain of calomel is given; morning and evening a scruple to half a dram of mercurial ointment must be rubbed in; cut with a scissars the vesicle succeeding to the blister — remove the powder, and according as the wound is deep or shallow, either fill it again with powder, or dress it with fly ointment; continue this for six weeks, if the patient will bear it. Calomel and frictions should be used up to salivation, and when the patient loses about a pound of saliva daily, the

frictions should be discontinued, but the calomel should be continued in sufficient doses to keep up the action: after six weeks of this treatment establish an issue." I give his treatment textually; its success is its greatest recommendation; it might be thought, by some persons, that a patient who could survive it ought to be proof against any disease.

If the disease be developed, blood-letting seems to have most effect in mitigating the intensity of the symptoms. Many cases are recorded where bleeding to faintness has done well. Wanner proposed sulphate of quinine; Brera and De Schallem, belladonna; Schænberg and Semmola have recommended chlorine in water. Three times Dupuytren injected into the veins from twelve to fourteen grains of opium, dissolved in water; each time there was a slight alleviation of suffering,—once for three hours, but all died: others have repeated his experiments, but with no better success. Distilled water alone, and laurel water, have been injected, but with no good effect. Enormous doses of opium have been exhibited, but with no better success. Cold baths have been unexpectedly given, but, even in the water, the convulsions occurred. The surface of the body has been almost completely covered with blisters; still the convulsions have lost nothing of their intensity. In fact, it would seem, that in those cases where the patient is kept perfectly quiet, and not annoyed by medicines, life is extended twenty-four hours longer than when energetic treatment has been resorted to.

I ought to mention that, in 1821, two Russian medical men, Salvatori and Marochetti, discovered under the tongue of rabid animals, as well as in the human subject, from the third to the ninth day after the bite, two small pustules, one on each side of the frænum; in form they are variable; they contain a yellowish or greenish sanious fluid. The existence of these sublingual pustules has been confirmed by medical men in Italy, France, and Germany. These gentlemen believe that if the pustules are not opened within twenty-four hours of their first appearance, the poison is absorbed, and the patient is lost. They therefore recommend that the mouth of a person bitten by a rabid animal should be examined twice a day for six weeks, and that during this time the patient should take, daily, a pint of decoction of genista tinctoria, made by boiling an ounce of the plant in a quart of water until reduced to a pint. If the decoction be vomited, three drams of the powder should be taken daily. If the patient be constipated laxatives must be administered. If the pustules be discovered they must be opened, and cauterised either with a red hot needle or some caustic. "The cure will then be certain." Many cases of cure are given, but there are also upon record cases in which this treatment has failed. My own opinion is that we have no unquestionable case of cure of confirmed rabies; it seems so far to be above the resources of our art. It may be said, how is that opinion to be reconciled with the statements of Vendt and Marochetti? My answer is, that in the only two cases mentioned by Vendt, in which the disease was fairly developed, the patients died; and the same reasoning may be applied to those of Marochetti.

LECTURE

ON

SERO-CYSTIC TUMORS OF THE BREAST,

Addressed to the Students of St. George's Hospital, January 21, 1840,

By Sir Benjamin Brodie, Bart.

Gentlemen,—Although the pressure of other engagements has caused me to resign my situation as Surgeon to St. George's Hospital, I shall never cease to feel the highest interest in the welfare of an institution to which I am so deeply indebted, nor in that of the Medical School, which is in connection with it, and the advancement and improvement of which has been almost the greatest object of my life, during the last thirty years. Most gladly shall I avail myself of any opportunity which may occur of rendering service either to the one or to the other. I shall always regard the pupils of this school as having an especial claim on my attention, and my best wishes for their success, in the honourable practice of an honourable and independent profession, will attend them through life. In order that I may show that these are not mere words of course, and that what I say is what I really feel and mean, I have offered to the medical officers of the hospital that, if they and you are desirous that I shall do so, I will complete the course of gratuitous lectures which I had begun for the present season; and that I would afterwards deliver an annual course of lectures, also gratuitously, in the theatre of the hospital. This offer has been accepted, and I now proceed to redeem my promise.

But before I go farther, I must explain what these lectures are intended to be. It is evident that they cannot, as heretofore, as-

sume the form of clinical discourses. At the same time it is desirable that they should be such as will interfere, as little as possible, with the systematic course of lectures delivered by Mr. Hawkins and Mr. Babington. I think that this may be easily accomplished. Not being limited as to the time devoted to a particular subject, I shall be enabled to discuss the history and treatment of the diseases to which I may call your attention at greater length, and more in detail, than can be done on ordinary occasions. I shall sometimes, instead of treating specially of one disease, take a particular symptom, or order of symptoms, as the basis of our inquiries, referring them to the various diseases from which they may arise; and I am much mistaken if this will not enable me to communicate to you some information, which, whatever may be its value in the eyes of a mere morbid anatomist, may prove useful to you when you are first engaged in the practical exercise of your professional duties. I shall, moreover, by means of these lectures, endeavour to supply a considerable deficiency of hospital education. In the wards of the hospital you learn the great principles of disease, and the more important rules of surgery, but you have not the opportunity of learning the whole of what you require to know for the purposes of private practice. Diseases prevail in one class of society which in another are only occasionally met with; and one object which I shall keep in view is that of explaining what might otherwise perplex you when, passing from the bed-sides of the labouring poor, you begin to practise your art among those who live in case and affluence. In the early part of my professional career it often fell to my lot to experience the want of such instructions, and I am inclined therefore to believe that they will not be unacceptable to you.

The disease of which I propose to treat on the present occasion, is an affection of the female breast. It is one of great interest in various ways, and among others in this, that in its more advanced stages it is liable to be confounded with carcinoma, although it is not really of a malignant nature. And I may here remark, that it serves very well to illustrate the observations which I have just made, as I should not have been able to trace its exact history if I had trusted altogether to my hospital experience. In private practice it is of frequent occurrence. Yet I have not met with any description of it in books corresponding to what I have myself observed of its actual progress. You will presently see how this is easily to be explained, by the disease assuming a wholly new character as it proceeds, so that if you were to look at two cases of it, one in an early, and the other in a more advanced stage, without having witnessed the intermediate changes which have taken place, you would be scarcely able to recognise their identity. Let me not, however, be misunderstood as representing that no notice whatever has been taken of it by surgical writers. The account which Sir Astley Cooper has given of the hydatid breast has been taken principally from cases of this disease, and there are also some allusions to it in the Treatise on Diseases of the Breast, lately published by M. Velpeau.

The first perceptible indication of the disease is a globular tumor imbedded in the glandular structure of the breast, and to a certain extent moveable underneath the skin. Sometimes there is only one such tumor; at other times there are two or three, or many more. The examination of the breast in the living person does not enable you to determine the exact number which exists, as it is only where they have attained a certain magnitude that they are perceptible through the skin. In most instances the disease is confined to one breast, though it is by no means very uncommon for both breasts to be similarly affected.

The globular form which the tumor invariably assumes in the first instance is a sufficient proof that it is formed of fluid collected in a cyst, and of course pressing equally in every direction. If you puncture the tumor with a grooved needle, the fluid may be evacuated so as completely to empty the cyst, and the perfect subsidence of it afterwards proves how little space the cyst itself occupies. The fluid is always serous. When the tumor is small it seems to be serum, unmixed with any thing else. In a more advanced stage of the disease, some colouring matter is generally blended with it, and it may be green, or brown, or so dark coloured as to be almost black. The quantity of fluid of course varies. In dissection, I have found the cyst to be so small as to contain scarcely a single drop. But it is sometimes capable of containing several ounces. In two cases in each of which I had the opportunity of examining a breast affected with this disease, I found small cysts, composed of a thin membrane, and containing serum, pervading the whole of the glandular structure, the intermediate parts presenting a perfectly healthy and natural appearance, and I could discover nothing more. I am, however, led to suspect that the cysts are originally formed by a dilatation of the lactiferous tubes. In one of the preparations now on the table you will perceive a bristle introduced into the orifice of one of these tubes opening on the nipple, which has passed into a cyst

immediately below; and it is not uncommon to find that by pressure on the tumor the fluid may be made to escape by the nipple, even so as to expel the whole of it.

To complete this history of the disease, as it first shews itself, I may add that the general health is unaffected, and that the patient complains of no pain, unless it be that, in some instances, there are those disagreeable nervous sensations which are apt to arise whenever the attention is anxiously directed to any one part of the body. I have never known the disease to occur previously to the age of puberty, nor after the middle period of life: and, if I am not much mistaken, it is more common in single than in married women.

There are not a few cases in which no morbid changes take place beyond that which I have already described; the cysts remaining unaltered, or only slowly increasing in size during the remainder of the patient's life. But in other cases the tumors lose their globular form, and a solid substance is deposited in the breast, connecting different cysts with each other in one large mass of disease. This process may be going on for many successive years without inducing pain or much inconvenience, except what belongs to the bulk of the tumor. But the period at last arrives when other changes take place, the disease assuming a more formidable and dangerous character. The skin, in some one part, more tense and thin than elsewhere, becomes inflamed and ulcerates; and an intractable and bleeding ulcer is the consequence. Then one of the cysts, more distended than the rest, gives way, discharging its serous contents. Perhaps the opening heals, then again gives way; and this may recur several times, until at last a fungous growth protrudes through the opening. And here the question arises, what is the exact nature of these changes, which, by a slow gradual operation, at last convert a disease so small and simple in its origin, into one so extensive and complicated? This I shall next endeavour to explain; and a series of preparations on the table, with the histories of the cases belonging to them, will enable me to do so.

The first of these is a membranous cyst, which I removed from the breast of a private patient. It is of the size of a large walnut; and you will observe that about one-fourth part of its cavity is occupied by an irregularly shaped excrescence attached to one portion of its internal surface.

Several years ago Mr. Green and myself were present when Mr. Freeman, of Spring Gardens, removed the breast of a female with a similar tumor imbedded in it. The tumor was of about the same size as that which I have just shewn you; and in my notes of the case I find it stated, that "the cyst contained serum, but that about one-third part of its cavity was occupied by an excrescence which came from one part of its inner surface. The excrescence had the appearance of fibrine which had become vascular."

The history of the patient whose case has furnished us with the next preparation, and the accompanying drawing, is highly interesting, and illustrates many circumstances connected with this disease.

This lady consulted me in the month of October 1837, respecting a tumor of the breast, which might be compared as to size to a large nutmeg. It was of a globular shape, and evidently contained fluid. I punctured it with a grooved needle, and a yellow serum escaped. There were no other indications of disease. Afterwards I made a free opening into the cyst with a lancet, and, the whole of the fluid having been evacuated, I introduced a piece of lint, with a view to produce inflammation and the formation of granulations on its inner surface, which might obliterate its cavity. An abundant suppuration and a good deal of inconvenience followed this trifling operation. At the end of about two months, although the abscess was not properly closed, the patient believing herself to be nearly well, left London of her own accord. I heard nothing of her from this time until, after the lapse of about fifteen months, she again placed herself under my care. In the situation of the cyst which I had laid open there was now a considerable solid tumor, a portion of which, of about half the size of an orange, projected through an opening in the skin, forming an irregularly shaped fungus. There seemed to be no other remedy than that of the removal of the breast by an operation, to which the patient willingly consented; and from which she recovered favourably.

On examining the tumor in its recent state some remains of the original membranous cyst, containing a small quantity of serum, were found at its basis. A large quantity of solid substance projected as an excrescence from the inner surface of the cyst, assuming a peculiar plicated or fimbriated appearance, and a portion of this excrescence protruding through the skin, formed the external fungus. You will see these appearances distinctly visible in the preparation, although not so plainly as before the parts were immersed in alcohol, and they are well represented in this drawing, which is made with Mr. Perry's usual accuracy. The structure of the morbid growth seems to be of the simplest kind. I can compare it to nothing better than fibrine imperfectly orga-

nized. Its existence does not seem to be limited to the inside of the cyst, a considerable mass being on the outside, in immediate contact with the gland of the breast. Previously to the operation the remaining part of the breast appeared to be in a healthy condition; but on dissection afterwards I found imbedded in it a great number of membranous cysts, of various sizes, from that of a pea to that of a horse-bean. These cysts contained a transparent yellow serum, and were evidently of the same nature with the larger cyst which I had formerly punctured, and in which the fungus had originated afterwards.

The preparation which I now shew you leads me to the history of a patient who is still under the care of Mr. Keate, in this hospital. Fifteen months ago, being then an out-patient, she had a tumor of the left breast, above the nipple, of the size of a walnut. It was globular and moveable. Mr. Cutler punctured it with a grooved needle, and ascertained that it contained serum. Soon afterwards it was found that a fluid, similar to that which had escaped by the puncture, was discharged by the nipple. From this time the tumor gradually increased in size. Six weeks ago Mr. Keate repeated the puncture with a needle, giving exit to a large quantity of yellow serum. The tumor, in consequence, was much reduced in size, but it soon enlarged again, so as to exceed its former dimensions. On the 21st of last December, Mr. Keate made an incision into it, and the cyst was now so capacious that not less than half a pint of serum was evacuated by the wound. The serum now was tinged with blood, and a good deal of hæmorrhage followed the operation. In the course of a few days a large dark-coloured fungus was seen projecting through the wound. Under these circumstances, on the second of the present month, Mr. Keate amputated the breast, and you may here see the morbid appearances which it presents.

The tumor consists of a large membranous cyst, which might have been capable of containing twelve ounces of fluid, if the greater part of its cavity had not been occupied by a great number of excrescences attached to its inner surface. These excrescences vary in size, the smallest being not bigger than a pea, while one of them is of the size of a small orange. They are covered by a thin membrane, which appears to be continuous with, and a reflection of the inner layer of the cyst. When cut into, these excrescences present the appearance of a considerable variety of structure. Some of them may be compared to recently coagulated albumen not yet organized: others, to imperfectly organized fibrine: some of them have an apparent resemblance to fatty tumors, although I do not find that they actually contain any oily matter, and one of them might, on the first view of it, be almost mistaken for medullary disease.

The tumor which is displayed in the next preparation illustrates a still more advanced stage of the disease. I removed it from the breast of a private patient in the month of November 1836. It had existed for many years gradually, but slowly increasing in size. You perceive that at the time of its removal the tumor was not larger than a small orange, and that it was of an irregular shape. Near the base of the nipple is a membranous cyst, which contained two or three drams of very dark-coloured serum. Some smaller cysts, which also contained serum, are seen in the neighbourhood, and a bristle introduced at one of the ducts of the nipple has entered one of the cysts by a smaller circular aperture. The seat of the tumor, on a superficial view of it, appears to be one uniform mass of solid substance: but on a more close inspection you find it to consist of a congeries of membranous cysts, the cavities of which are completely filled with fibrinous matter. In many of the cysts, on examination with a probe, I found this fibrinous matter to have an attachment to one part of the inner surface, lying in contact with the lining membrane elsewhere, but having no actual adhesion to it.

We can scarcely doubt that if in this case the operation had been deferred until a later period, the growths of fibrinous matter, by which the cysts were occupied, would have contracted universal adhesions to the membrane with which they lay in contact, and that the whole, with the exception of those cysts which still contained serum, would have been identified in one solid mass of substance, in which the original cellular or cystic structure would have entirely disappeared. Of this last change, the preparation which I now shew you, seems to furnish an example. The patient from whom this specimen was taken was under my care in the year 1818. I have no notes of the early history of the case; but the disease had probably been of long duration, as, at the time of my being consulted, the breast had attained an enormous size, being not less than seven pounds in weight. She was a middle-aged person, otherwise in good health, and the skin and the axillary glands were free from disease. Under these circumstances the diseased breast was amputated. The wound healed favourably, and I heard of the patient being alive and well several years afterwards. If you examine the cut

surface of the tumor, or rather of that portion of it which is displayed in the preparation, you will see that the greater part of of it is one uniform solid mass, of which it is difficult to describe the structure in words, further than by saying, that in some parts it has an indistinct laminated appearance. There are, however, in one part of it, several membranous cysts of various dimensions, which, when first cut into, were found containing serum. One of those is distinguished from the rest by its greater size, being capable of containing several ounces of fluid, but being also occupied by a large excrescence attached to one part of its inner surface, and projecting into its cavity. This excrescence is of an irregular shape, very similar in appearance to some of those which you have seen in the other preparations. In its recent state it seemed to consist of distinct masses of recently coagulated albumen, semi-pellucid, some of a light yellow, others approaching to a purple colour, and altogether bearing no small resemblance to a bunch of white and purple grapes. These peculiar appearances, of course, have been destroyed by the immersion in alcohol.

Having explained to you these facts in detail, with a view to impress the subject more completely on your minds, I shall endeavour to trace, in a few words, the pathological history which they seem to establish, and which, not only as a matter of science, but in a practical point of view, it is so important for you to understand. It appears, then, to be as follows:—

First: a greater or less number of membranous cysts are generated in the breast, containing serum. The latter is at first of a light yellow colour, and transparent, but afterwards becomes of a darker colour, and opaque. There is reason to believe that these cysts are formed by a dilatation of portions of some of the lactiferous tubes.

Secondly: morbid growths or excrescences are generated from the inner surface of one or more of these cysts, projecting into their cavities. These excrescences seem to consist of albumen or fibrine, which, after some time, (if not immediately) becomes organized. They are covered by a thin delicate membrane, which seems to be reflected over them from the inner surface of the cyst; but whether they are originally formed between two layers of the membrane of the cyst, or whether they are at first mere deposits of fibrine or albumen on the inner surface of the cyst, a thin membrane being formed on their surface afterwards, remains to be determined by future observations.

Thirdly: there is some reason for believing that a similar growth of fibrinous substance may take place from the external surface of the cysts connecting different cysts with each other; but this point may perhaps require to be illustrated by further investigations.

Fourthly: under certain circumstances the cysts become completely filled up by the morbid growths, so that their cavities are obliterated, the tumor being thus converted into a solid mass, in which, however, the remains of the cysts are perceptible; and this is the prelude to a still further change, in which the greater part of the cysts have wholly disappeared, a solid mass of an indistinctly laminated texture occupying their place.

Fifthly: if one of the membranous cysts be artificially laid open, or if it burst from over-distension with serum, the fibrinous excrescence from its inner surface being no longer restrained by the pressure of the skin, increases in size, and protrudes externally in the form of a fungus, giving to the tumor a new and more formidable character.

In this last stage of the disease, it is evident that spreading ulceration, sloughing, and hæmorrhage, the usual results of an ulcer occurring in a diseased structure, must ensue, and that no remedy is likely to be of any service to the patient, except the removal of the affected parts by a surgical operation.

And this leads us to the concluding and most important part of these inquiries. In considering the treatment of these cases, it is convenient to distinguish those in which the disease is still in its earliest stage, presenting itself in the form of a membranous cyst, or cysts, containing serum, from those in which the growth of a solid fibrinous substance has became superadded to this simple original structure.

In the first order of cases we may venture to evacuate the fluid contents of the cyst by penetrating it with a grooved needle. No inconvenience is ever the result of this trifling operation; and it is often useful by assisting us in our diagnosis, and also by enabling us to determine whether any growth of solid matter, in connection with the cyst, has yet taken place. But it is not productive of any permanent benefit, as the fluid is always regenerated in the course of two or three days. I have no experience which would lead me to recommend any further or more considerable operation than this. It is needless to remove what appears to be a solitary cyst, as it is always highly probable that there are other cysts in other parts of the breast co-existent with it, which are not yet sufficiently developed to be perceptible through the skin; or otherwise, that such cysts will be formed afterwards if they do not exist already. As to the removal of the entire breast, it is, under these circumstances, an unjustifiable proceeding, unless it be in a

few cases in which the cyst or cysts have attained so large a size as to be inconvenient from their bulk. The disease, in its early stage, causes no suffering, and may remain for years, or for the whole of the patient's life, without advancing farther, and, under these circumstances, no harm can possibly arise from delay. Besides: if I am not greatly mistaken, there is a simple and safe mode of treatment which may often be employed with great advantage, and which is not open to those objections to which any severe operation is always liable.

Some years ago, a lady consulted me concerning a small tumor of the breast, near the nipple, and apparently containing fluid. Not at that time knowing any thing better, I recommended that it should be removed by the knife. The day was fixed for the operation, but, in the meantime, some domestic circumstance occurred which made it necessary that it should be postponed. Under these circumstances I proposed to the patient that she should make the experiment of applying a stimulating embrocation to surface of the skin. This accordingly was done, and the result was, that the tumor disappeared. Some time afterwards, another lady consulted me, having a globular tumor of one breast, larger than a pigeon's egg. I punctured it with a grooved needle, and a considerable quantity of serum was drawn off. In a few days, the fluid being re-produced, the tumor, which had wholly disappeared, was as large as ever. I now applied the same treatment as in the former case; and in the course of some weeks the whole of the fluid had become absorbed, and nothing was perceptible, except a slight thickening, apparently formed by the collapsed membrane of the cyst. The thickening disappeared gradually, and when I last saw the patient, three or four years after the time which I have mentioned, there had been no recurrence of the disease. Since these cases occurred, I have had recourse to the same method of treatment in many instances. In some of them the result has been, that the tumor or tumors have entirely disappeared; in others, that without disappearing altogether, they have become very much reduced in size; and it is only in a few instances in which the treatment was not very rigidly pursued, that it has been productive of no manifest advantage.

The application which I have generally made use of on these occasions is the following:—

℞ Spiritûs Camphorati, Spiritûs tenuioris, aa. ℥iiiss; Liquoris plumbi diacetatis, ℥j. fiat Embrocatio.

I have directed the patient to soak a piece of flannel in this embrocation, and to apply it so as to cover that part of the breast in which the tumor is situated, renewing the application six or eight times in the day and night until the skin becomes inflamed; then to omit the application for two or three days, but to resume the use of it as soon as the inflammation has subsided. The period of time during which it is necessary to pursue this method of treatment varies in different cases. In some, all that can be desired is accomplished in the course of three or four weeks; in others, it must be continued, with occasional intermissions, for some months. Other stimulating applications may be occasionally substituted for that which I have just mentioned. Several blisters may be applied in succession; each of them being kept open for a few days with the savine cerate; or a solution of ℥j. of iodine in ℥j. of alcohol may be applied to the skin once or twice daily, by means of a large camel's-hair brush. On the whole, however, I am led to believe, that the embrocation is more efficient than any thing else.

But these remedies are of no avail when the growth of solid substance is begun. In this more advanced period of the disease, no good is to be expected except from the removal of the entire breast; and such an operation may be had recourse to with every prospect of success.

The disease seems to be entirely local. It belongs to the breast, and to nothing else. It does not contaminate either the skin or the lymphatic glands; it is not complicated with any corresponding disease of the viscera; and all the experience which I have had justifies the conclusion, that if care be taken that no portion of the breast is allowed to remain, there is no danger of its recurrence.

A careful observer will find little difficulty in distinguishing cases of this disease from those of the other diseases to which the breast is subject. It is, however, desirable, with a view to a more ready and accurate diagnosis, that we should consider what are the diseases with which it is most liable to be confounded. The principal of these are as follows:—

First: a thin membranous cyst, containing a transparent watery fluid, without coagulable matter, is occasionally found in the breast, which may be compared to the membranous cysts, containing pure water, which are sometimes met with in connexion with the liver; and of which I have published some cases in one of the medical journals*; and to the encysted

* See MEDICAL GAZETTE, vol. i., page 344; and vol. xv., page 25.

hydrocele of the spermatic cord or testicle. This disease is probably rare, as only two examples of it have fallen under my observation. In one of them the cyst was extracted by an operation; in the other the nature of the fluid having been ascertained by means of a puncture with a grooved needle, the tumor afterwards disappeared under the use of a stimulating embrocation.

Secondly: a cavity is sometimes formed in the breast, containing one or more genuine hydatids. Here there is a single fluctuating tumor, which gradually increases to a large size. If it be freely opened, the hydatids escape, and the cavity in which they were lodged becomes an abscess, which slowly closes and heals.

Thirdly: in a more advanced stage of the disease, it is not unfrequently mistaken for carcinoma; and I have no doubt that a large proportion of the cases in which it has been supposed that an operation has effected a permanent cure of the last-mentioned disease, have been in reality of this description.

I have hitherto confined myself to the description of the origin, progress, and treatment, of this disease of the breast, without venturing to give it a name.

It is, however, necessary that we should have the means of distinguishing it in conversation and in writing; and I would suggest "the sero-cystic tumor of the breast" as being an appropriate appellation—preferable, at all events, to a mere arbitrary term; inasmuch as it expresses with sufficient precision the character which the tumor possesses in its origin.

CASE OF HYDATIDS TERMINATING IN DEATH BY HÆMORRHAGE.

To the Editor of the Medical Gazette.

Sir,

I beg to forward you a history of the following cases which occurred under my care as surgeon to the Brighton Lying-in Institution. Should you, from its peculiarity, deem it worthy of insertion in your valuable journal, you will, by so doing, much oblige, sir,

Your most obedient servant,

Wm. Wilton,

Surgeon to the Brighton Lying-in Institution, &c.

10, St. James's-street, Brighton.

Martha Mitchell, æt. 37, having previously had four children, the youngest six years old, and having miscarried once, became a patient of the Lying-in Institution on the 26th of September, when, as surgeon to the charity, I was requested to see her. I may here observe that the menstrual period had been in every respect regular.

She had been for three or four days suffering from uterine hæmorrhage, accompanied with bearing-down pains; she told me that nine weeks previous, whilst lifting a heavy tub, she was seized suddenly with severe flooding that lasted for some days; during which time she was under the care, I think, of the General Dispensary of this town; when, considering herself so much improved as not to require further attendance, she resumed her employment as charwoman. The symptoms, however, at intervals of a week or so, returned with more or less violence; and the sensation of bearing-down never quite left her. At these times she contented herself with rest in the recumbent posture; but as this failed ultimately to afford benefit, she applied for relief to the Lying-in Instutution. She imagined that she had miscarried on the first attack of hæmorrhage, and that "*all had not been thrown off.*" I could not, upon inquiring, obtain from her friends satisfactory evidence of the miscarriage. Under these circumstances I directed mineral acids, the neutral salts and general refrigerants, cooling system of diet, &c.

The symptoms were checked by these means; but, on the 3d of October, the hæmorrhage returned, accompanied with slight tenderness over the abdomen. The medicines were repeated, with the addition of a few mild doses of pil. hydrarg. combined with a sedative.

This plan of treatment was pursued with advantage until the 12th, when the pain became suddenly severe, chiefly over the left iliac region, accompanied with intense bearing-down. The left iliac region was occupied by a tumor, in form somewhat resembling the uterus, and extending into the pelvis. The consequent enlargement of the abdomen confirmed in her mind the opinion which she had formerly entertained, viz., that she was pregnant; added to this, she said she experienced considerable fulness and tenderness of the mammæ. From the time that had elapsed (ten weeks) from the first attack of hæmorrhage, and the continuance of the efforts to expel, without any

thing being voided except blood, I felt inclined to think there was more mischief than she herself apprehended, and that the hæmorrhage was the result of some internal disease. An examination per vaginam did not satisfy my mind that she was pregnant, but confirmed the idea that there was some disease of the uterus.

I now requested my friend and colleague, Mr. Simonds, to see her, who agreed with me both as to the obscurity of the case, and as to the necessity for immediate local blood-letting. We therefore directed her to be cupped on the back to ʒxij.; and to prevent the general feverish tendency, prescribed salines, &c.

The cupping gave relief; but on the 14th the pain returned so violently, that the patient could with difficulty be confined to her bed. Our friend, Dr. Lyons, physician-accoucheur to the Institution, being now called in, and having examined her both locally and generally, stated his concurrence in our opinion both as to the difficulty of forming a satisfactory diagnosis, and the great probability of the disease being dependent upon the presence of hydatids. This opinion was almost reduced to a certainty by the information we then obtained, viz., that there had been at times sudden gushes of a fluid of a watery character. The action of the aorta being stronger than natural, and there being considerable general tenderness with pain in the tumor, recourse was again had to local bleeding by ten leeches, followed up by emollient cataplasmata, &c., the neutral salts, with vin. antim.; and for night, pil. hydrarg. et ext. opii were directed.

Through the whole of this period she had violent forcing pains, with scarcely an interval. On the 19th, finding no diminution of suffering, and the pulse not justifying a repetition of the leeches, Mr. Simonds, in my absence, kindly directed the administration of the acetate of morphia in considerable doses with good effect. The continued use of this sedative afforded temporary relief until the 24th, when, the arterial circulation becoming excited, leeches were resorted to.

The sedative system was pursued until the 30th; when, being requested to see her immediately, I found her labouring under severe pain, rather of a spasmodic character, though attended by the ordinary bearing down. The pulse was weak, though not sufficiently so to induce alarm. I therefore ordered an antispasmodic mixture of tinct. assafœtid. et mist. camph., &c.

On my second visit, at the expiration of three hours, I found her sinking as if from extreme exhaustion; which, from the suddenness of its approach, and its intensity, could only be considered as the result of some internal hæmorrhage. Brandy and water was now administered, which enabled her to expel large volumes of flatus; in the act of doing which she expired.

POST-MORTEM EXAMINATION.

Twenty-four hours after decease, I proceeded to inspect the body, in the presence of Doctor Lyons and Mr. Simonds, to the former of whom I feel principally indebted for the following description of the appearances that presented themselves to us. The body did not show any remarkable evidence of emaciation; the abdomen being opened, two large coagula, extending from either lumbar region into the iliac fossæ, lay immediately over the surface of the intestines. On removing them, and reflecting the viscera inwards, a considerable quantity of fluid blood, about three quarts, was found in these cavities. The intestines were healthy, but in the centre of the superior outlet of the pelvis, towards the left side, was a large rounded tumor, through the superior and posterior portion of which a coagulum protruded from an opening in the peritoneal covering about a quarter of an inch in diameter. The coagulum being removed, and the parts around the opening being gently pressed, a small cluster of hydatids escaped. The nature of the case was thus satisfactorily established. The uterus being removed carefully from its attachments, and examined with reference to its relations, there was observed on the superior and posterior surface of the fundus, immediately beneath the peritoneum, a highly varicose state of the veins, giving it a perfectly mottled and irregularly raised appearance, much thinner at some parts than at others. In this diseased part, but extending rather towards the right, was the opening already referred to. The vagina being laid open, it presented a healthy appearance, the os uteri slightly projecting into it; healthy, but dilated, so as

to admit the apex of the index-finger, and filled with a reddish mucus, similar to that formed in the first stage of labour. The uterus being opened from below, upwards, on its anterior face, the structure and lining membrane of the inferior and anterior portion were in a healthy state; but, from its superior and posterior third, a considerable mass of hydatids protruded into the cavity of the viscus, a large quantity of which was easily and immediately detached; but a cluster, equal in size to a small tea-cup, was firmly adherent to the fundus.

On examining this body, we discovered that the lining membrane immediately in its vicinity was completely degenerated in character, being covered with irregular patches of lymph, and capable of being easily broken down. The hydatids being partially removed, it was ascertained that the lining membrane was completely wanting, and that they were imbedded in the structure of the uterus; the vessels being dissected into layers by them. Towards the fundus they existed in nests of various sizes; thus producing the irregular enlargement of this portion of the organ which has been before described. Towards the superior part of the fundus, between the structure of the uterus and its mucous membrane, was another mass, which separated that membrane from its attachments, and formed a cavity of above two inches in diameter; thus illustrating Andral's observation—that hydatids are frequently generated behind the lining membrane of the uterus. In the neighbourhood of the opening through which the hæmorrhage had flowed, the peritoneal coat was raised up in detached parts from the subjacent parietes, by small clusters of hydatids. The left fallopian tube and ovary were loose and floating. This ovary was enlarged, and on being opened was found distended with hydatids, and the character of its internal structure obliterated. The right fallopian tube and ovary were tied down by adhesions to the posterior portion of the fundus.

There was no appreciable disease of any other organ.

I subsequently learned, that for the last six years since the birth of the youngest child, Martha Mitchell had been subject to inflammation of the bowels (as she termed it), requiring venesection, leeches, &c.; and that she was never entirely free from pain in the abdomen; that two years ago she had been ill for three months from an attack of inflammation. These facts, coupled with the situation of the hydatids, viz., their being imbedded in the structure of the uterus, lead to the question, how far the hydatids were the consequence, or the cause, of the diseased state of the uterus; and whence they took their origin? The pathology of the case, and the symptoms that developed themselves during the course of my attendance, induce me to think, that, in this particular instance, the hydatids must have originated in the centre of the substance of the fundus, and thence insinuated themselves both towards the peritoneal and mucous coverings of the uterus; and that the bearing down and general symptoms first indicated their existence, when admitted into the cavity of that viscus.

REMARKS ON HOMŒOPATHY.

To the Editor of the Medical Gazette.

Sir,

An inquest recently held, in which some of the more striking features of the homœopathic treatment of disease were most lamentably exemplified, affords an opportunity of again directing attention to the absurdity and danger of this practice, which should not, I think, be lost. I have reason to know that my former communication effected some good; the snake was, however, only scotched.

One fact, (always deducible from the homœopathic writings,) but which, in the melancholy case of Mrs. Norrington, is strikingly exemplified, would, one would imagine, satisfy, not merely the scientific pathologist, but the thoughtless multitude, that this "system" has no solid basis: *it offers no means for relieving constipation!* Imagine, sir, a system of therapeutics deliberately embraced by gentlemen "educated in the common notions of medical science," which, confessedly, comprises no dose of medicine of sufficient power to remove a simple constipation of the bowels! I shall not, in this paper, dwell on the homœopathists' pathology, but proceed at once to their posology; for when I show you the *doses* of me-

dicine employed, you will not fail to observe, and duly appreciate, the value of a system based upon the alleged fact, that such doses administered to a person in health will produce disease; such disease, when it occurs spontaneously, being cured by the same drug administered in a similar dose.

Let us take opium—the drug said to have been ordered by the homœopathic physician for the late Mrs. Norrington. The dose of opium recommended by Hahnemann is two decillionth parts of a grain. This sounds mighty simple; and, until we look more narrowly at the power of numbers, is not so monstrous as it may be demonstrated to be, for, by mere volition, it is impossible to conceive so minute a division of matter. But an unit, with sixty cyphers in its train, is, in reality, a formidable number. Persons have illustrated the absurdity of homœopathy, by recommending the throwing a grain of medicine into the Thames; they meant to exaggerate, but, in fact, had they substituted the Atlantic Ocean for Father Thames, they would have enormously under-rated the degree of attenuation, as I will now proceed to show.

* The diameter of the earth is about 8,000 miles; the solid contents of spheres vary as the cube of their respective diameters. The population of the world has been calculated at about 800,000,000; and a homœopathic dose of opium amounts to two decillionth parts of a grain: upon these data we proceed.

℞. From one grain of opium abrade an atomic particle, which shall bear the same proportion to the whole grain that a spherule one-thousandth part of an inch in diameter bears to the globe on which we stand; divide this particle among the whole population of the world, cause each individual to swallow an homœopathic dose every second, and it would require 20,000,000 of years for them to swallow the particle described. I ask the reader to ponder on this for a moment, and then read the following quotation from Hahnemann's "Organon of Medicine," note, § 283: "I have often seen a drop of the tincture of nux vomica at the decillionth degree of dilution produce exactly half the effect of another at the quintillionth degree, when I administered both one and the other to the same individual, and under the same circumstances;" and then he gravely tells us, "if the patient is very sensitive, it will be sufficient to"—what does the reader imagine?—"to smell a phial that contains one of these globules*." "After the patient has smelled to it, the phial is to be re-corked, which will thus serve for years." And this, sir, is the apostle followed by gentlemen who have been "educated in the common notions of medical science;" of whom Dr. Quin's list, "Nomina medicorum qui Homœopathiam exercent," published several years since, contains upwards of 300!

One further illustration, and I will cease. Opium is a potent drug: let us take capsicum, which many of us eat rather allopathically. What dose of this does the leviathan of homœopathists recommend? He would give one trillionth of a grain. This is given either in a globule of sugar, or drop of spirit of wine. Let us take the latter as the vehicle. Suppose we wished to attenuate one grain of capsicum, how much spirit of wine would it require, allowing one minim for each dose? The area of the great Pyramid of Egypt is 480,250 square feet; and its height, 499 feet, say 500; its solid contents are therefore 80,041,666 cubic feet. Say we have 378,875 minims of spirit of wine in a cubic foot, divide the trillion by this number, and the result is, we have above 2½ billions of cubic feet in a trillion of minims; extract the cube foot, the result is 13,750 in feet, which will be the length of each side of a cubical vessel which will hold a trillion of minims of pure spirit, *i. e.*, it must be above two miles and a half long, two miles and a half wide, and two miles and a half high; or comparing it with the great Pyramid, it would require above thirty-two thousand six hundred Pyramids to contain spirits of wine to dilute one grain of capsicum. Thus, sir, have I presented you with an accurate description of the homœopathic doses of medicine deliberately recommended for the cure of disease. Can any person, having the common feelings of humanity, contemplate without a shudder the treatment of acute disease by such means? Can its professors in this country, after

* The same clerical friend who furnished the former, favoured me with this calculation.

* It should be explained that the drug is made up into globules by means of sugar.

this appeal, pursue their dangerous course? Is it ignorance that prompts them to adopt this system *? I would fain hope, indeed verily believe, it is; if so, I shall not appeal in vain for the health, the very lives, of the credulous many, who, I am told, still resort to the homœopathist.

I appeal not to the public, for so gullible is the multitude, in all countries, but more especially, I verily believe, in this, in matters of medicine, that I doubt if the very absurdity of the practice, as here demonstrated, would not bring votaries to its shrine; but to its professors, members of a learned and eminently humane profession, I would appeal, and ask if they can longer hold fast by such a wreck. Hear what your own Hahnemann says, § 2. "The perfection of a cure consists in restoring health in a prompt, mild, and permanent manner; in removing and annihilating disease by the shortest, safest, and most certain means." This is perfectly true. You have now plainly before you the means homœopathy offers. Does it afford those here indicated? Common sense and common humanity cannot fail to decide that question aright.—I am, sir,

Your obedient servant,

THOS. H. SMITH.

St. Mary Cray, Kent.

* Dr. Strattan, in his translation of Hahnemann's "Organon," mentions in a note that he has seen a drop of laudanum given with advantage; as if this bore any proportion to a homœopathic dose; he further says, "a quintillionth is the fine millionth part."

GUN-SHOT WOUNDS.

To the Editor of the Medical Gazette.

SIR,

MR. PHILLIPS, in a lecture on gun-shot wounds, recently published in your useful journal, states that "even in the 16th century they were regarded as poisoned wounds, and also as burns. In accordance with these opinions, the two indications presented were, to cure the burn and to destroy the venom. Sprengel states his belief, that to Paré and to Maggi must be attributed the change in opinion as to the burn and the poison." And, doubtless, this belief of Sprengel was well founded, as the opinions of Paré exercised great influence both at the time he wrote and afterwards; and Maggi is also a convincing writer. But I confess I am somewhat disappointed at the omission of another name by the learned lecturer, whose works must have contributed some share towards the settlement of the question — particularly in this country; I mean the work of Thomas Gale, entitled "An excellent Treatise of Woundes made with Gonne-shot; in which is confuted bothe the grose errour of Jerome Brunswicke, John Vigo, Alfonse Ferrius, and others: in that they make the wounde venomous, which commeth through the common powder and shotte: and also, there is set out a perfect and trew methode of curyng these woundes. Newly compiled and published by Thomas Gale, Maister in Chirurgerie. Printed at London, by Rowland Hall, for Thomas Gale. 1563."

He sets out with the following proposition or *thema*: "The usuall gonne-powder is not venomous, nother the shotte of such hotnesse as is able to warme the fleshe, much less to make an ascar." This he proves by long extracts from the writings of Dioscorides and Galen. Chapter II. contains "the generall methode and way to heale such woundes as are made with gonne-shot." The remaining chapters treat of wounds of the head, chest, belly, and limbs.

> "The canon-shotte, (dreadful, and fell
> Lyke thonder-boltes and fyry flame,)
> Howe to remove the wayes he tell
> In this Treatise of worthy fame."

Thomas Gale appears to have been not only a diligent reader, but he was also a man of experience, for he served in the army of Henry VIII. at Montreuil, in 1544, and in that of King Philip, at St. Quintin, in 1557; but afterwards settled in the practice of surgery at London, and was living in 1586.

Maggi, or Maggius, (Bartholomaus,) was born at Bologna in 1477, and died in 1552. He was first physician to Pope Julius III. His work is really a remarkable one, considering the period at which it was written. The first edition appears to have been published in 1552. There is another of 1555; and the one I read was published at Venice, in 1566. "De sclopotorum et tormentariorum (bombardarum, in other editions) vulnerum natura et curatione, Libr. iv." He begins the work by combating the idea of burning or of

poisoning from the powder. "Non-comburere, sed solum contundere, manifestum est." "Nigroris notam ab ipso pulvere, non ab ignis adustione inductam." He proves the non-poisoned nature of the wound by giving the constituents of gun-powder, composed of "sulphur, nitrum, carbones salicum," not one of which is poisonous. His method of treatment is as remarkable as his enlightened notions respecting the nature of the wound.

As an application to the contused parts, he recommends "albumen ovi," after Paulus, and no tents, or at least very slender ones. "Quaproter nullum vel parvum admodum periculum primis saltem diebus imponimus, et tantæ duntaxat longitudinis crassitudinisque ut ne vulnus clandatur, possit prohibere quo apte ex vulnere pus effluat." The primary symptoms of inflammation are to be treated by bleeding, purging, low diet, no wine, clysters, and friction on sound parts. During the first days the wound to be little cleaned or touched. "Multæ ligaturæ in principio cavendæ." Pus to be encouraged by poultices, &c. As a suppurative he recommends rose oil with resina abietina, which he says also mitigates pain. He states that a ball may be retained for thirty years without causing an abscess, unless it comes to the skin. It must be extracted the first day, if possible, together with all foreign substances. He gives a figure of a ball forceps. When a vein or an artery is wounded, "laqueo excipies, vel ferro candente adures." If the wound is on a nervous part, he recommends bleeding and purging. Erysipelas, he thinks, with Galen, is produced by yellow bile, or a mixture of yellow bile with blood. For its cure he recommends moderate purges, as manna, and sometimes bleeding; topically, camphor ointment, and such like. For phagedenic ulcers, after every thing milder has failed, he says, "ignis depascentibus ulceribus præstantissimum remedium." Of œdema he says, "ita ut sanguis a natura ad membrum illud demissus, in alimentum non convertatur, sed in flatum et pituitam." Carious bones are to be removed either in part or in whole, taking care not to wound arteries, veins, or nerves, and sarcotics to be afterwards applied, and quotes Galen, Paulus, and Celsus, as his authorities.

When I sat down I intended to have noticed briefly the works on the same subject published by Alfonso Ferro, Leonardo Bottallo, Rota (J. F.) Ippolito Bosco, and Franciscus Plazzoni, but these I must reserve for a future consideration; meanwhile I remain, with great respect,

Your obedient servant,
H. P.

London, 12th February, 1840.

MEDICAL GAZETTE.

Friday, February 21, 1840.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

ON HOSPITALS,

PARTICULARLY THOSE OF ITALY.

OUR readers may remember that a short time since we took occasion, on the presentation of a report from a medical commission who had undertaken to inquire into the administration of the hospitals of Paris, to remark on the superior condition and more liberal treatment of the sick poor, when placed under private management, and supplied by private charity, than when they fell under the hands of a government, and were supported by a forced contribution. The conclusions which we then drew from the illustrations which that report supplied, are remarkably confirmed by a "Notice of the principal charitable establishments of Italy," by M. Foucher, one of the members of the general council for hospitals in Paris, who has been, for a considerable time, impartially occupied in collecting information on this subject in all the chief towns of that country; and whose statements, from his familiarity with every branch of the inquiry, are deserving of the greatest consideration.

This "Notice," we say, affords an admirable example of the good working of a system of voluntary contribu-

tion and endowment, in which the contributors and trustees have the management of the funds: while, on the other hand, the details which we have lately drawn from Dr. Alison's publication present an instance no less striking of the wretched distress which exists in the midst of the relief portioned out by the dispensers of an insufficient compulsory tax.

After some observations on the plan of building, and general arrangement of the Italian hospitals, which, like our own, possess the advantage over the majority of those of France, of having been built *exprès*, and therefore, of combining appropriate architectural style with local convenience, (though, too often, these benefits are in some measure neutralized by the great size of the several compartments), M. Foucher remarks on what appeared to him the peculiar cleanness and good condition of the wards. We can well understand how one accustomed to Parisian hospitals, and especially to the larger among them—as the Hotel Dieu, La Pitié, and La Charité, would at once remark a peculiarity, in the absence of that close, sickly smell, and hot-air, which assailed him in their wards and in their precincts. We well remember the nausea which we endured every morning of our first sojourn in Paris, and which almost daunted all our enthusiasm: to us the existence, to M. Foucher the absence, of this smell, and other signs of uncleanness, appeared peculiar.

He remarks next, on the general use of iron-bedsteads, and on the abundant supply of linen, which enables the bedclothes of the patient to be frequently, and, if necessary, even daily, changed: an abundance of supply which, it is remarked, contrasts strongly with the sad penury of the Parisian linen-stores, of which the absolute wants required, in 1834, an outlay of upwards of a million francs! He was struck also with the comfortable and decent clothing of the Italian patients, particularly with that of the infirm and deranged, as well as of the children; besides their under garments and woollen trousers, they (positively!) all wore shoes and stockings. Such a fact, he drily adds, "would have struck me less if I had been accustomed to see the same thing upon our own patients."

Now, we remember when the chief gravamen of a charge upon the managers of one of our hospitals was, that a certain patient had not had his sheets changed frequently enough; and when the accusation was almost established, the authors of the neglect were assailed, as little short of monsters, of cruelty and unkindness: yet, on the compulsory tax system, such neglect is the common lot of hospital patients in Paris—as it is of paupers in our own country; and complaints against it are deemed unreasonable.

The food of the Italian sick and infirm poor is in like manner, and to the same degree, superior to that of the French; it is more varied in its character, and, notwithstanding a considerable degree of confusion and want of arrangement in the store-houses and kitchens, as in some other departments of the establishments, is good and wholesome in its quality. Especially there appears to be peculiar care and tenderness bestowed upon the insane. To mention but one point, it is observed that the beds occupied by epileptic patients are surrounded by an iron frame-work which rises for a couple of feet above the level of the bedsteads, so that during an attack the patient may, by closing him in, be completely hidden from the rest of those who are in the same ward. In short, as far as the means at the disposal of the managers of Italian hospitals will allow, the treatment of the objects of their relief appears to be most liberal; they are

evidently bestowed with kindness; and, instead of harsh rebukes for having fallen into the crime of poverty and helplessness, the poor are solaced by pity, if not entirely delivered from their distress by pecuniary assistance.

We need not enter into more details; but it is important to observe what are the sources from which the funds are derived, and the class of persons to whom their distribution is entrusted. What, then, are these? Why, present or accumulated private and public charity, alone and unaided by government, supply the means; and they are distributed by societies of priests, or by trustees. The government exercises a very general superintendence, and that only with the greatest reserve. Voluntary charity supplies all the resources required, not only for the sick of all classes, but for the foundlings, who are very numerous, and for all the infirm and old, of whom a small portion are received into alms-houses or hospitals, but the great majority are relieved and supported at their own houses.

Now we do not mean to say that it ought to be deduced from the sufficiency of a system of voluntary relief in Italy, that so beneficial a result could be anticipated from it in this country. The probability is, that any attempt at such a plan would fail. But with regard to the influence of the predominant theory of the management of poverty amongst us, the facts we have detailed are most striking. The case stands thus: in France the poor are all supported by compulsory tax, and are insufficiently relieved: in Italy they are all supported by voluntary charity, and they are all, notwithstanding many local disadvantages, liberally protected and maintained: in England, part of the poor fall under the charge of the trustees of charity, and are comparatively happy, while part are forced into the hands of the guardians of a compulsory tax, and suffer much greater discomfort. In other words, one set of poor persons are consigned to the care of the practically benevolent; another to the management of theorists, whose only object is to see with how little a great appearance of relief may be effected.

The origin of the evil of illiberality towards the poor lies in the closeness not of the hands which give, but of those which distribute the relief. Thus we see that where those who give of their own bounty and good-will, also distribute their gifts, all is done with consistency and kindness; but when the supplies, afforded either voluntarily or by compulsion, are placed at the disposal of those whose only gratification is derived from the application and imagined success of their theory of diminishing poverty by diminishing succour, and whose only expected reward is a reputation for economy, then, how totally is the picture reversed! We need no better examples than are to be found every day, of the first class of distributors amongst the governors of our hospitals, and other kinds of strictly charitable institutions; and of the second class, amongst those who (we might almost suspect them of facetiousness) call themselves guardians and relieving officers.

M. Foucher remarks with surprise that it should be necessary to compel a tax upon the rich in England, to maintain the infirm and poor (or that portion of them who are not received into voluntary charitable institutions), while in Italy, charity alone is sufficient to supply their wants. Now we do not believe that, as he seems to hint, the real charity or benevolence of the English, as a nation, is at all inferior to that of the Italians, though the latter may be pressed by more motives to the distribution of their money; on the con-

trary, the liberal support of the numberless voluntary charities of the present day is a sufficient proof that a large portion of the public are willing to give to the full extent of their means. The mischief is, that part of the distribution among us has fallen into the hands of economists, and of men whose project fails when the poor receive a liberal assistance.

We acknowledge that an exact parallel cannot be drawn between the state of hospital charity and other branches of benevolence of the same kind, and that of the compulsory gifts to the general maintenance of the poor; and we only allude to the facts we have cited, to shew, that being distributed by liberal hands, the funds for the poor, even in a needy country like Italy, supply their wants more satisfactorily than they do in England, though far richer. But with respect to schemes of hospital government, the case of Italy is perfectly apposite to confirm the conclusion which was drawn from a comparison of the results of our own and of that of France. The interference of government in any more than the most limited and general kind of surveillance over the management of hospitals, is evidently *per se* mischievous to the objects of their charity. By superseding a part of the necessity for private benevolence, it removes the greater portion of the motives that lead to it; by assuming the distribution of funds, it opposes an insuperable bar to the activity of many of that class who are amongst the most useful supporters of our institutions, and who, if merely for the pleasure of management, will exert all their powers for the maintenance and improvement of the establishment to which they have attached themselves. In a word, place the disposal of funds in the hands of a government, and no one will voluntarily contribute to them; a man (or at least an Englishman or Frenchman) will have no more pleasure in contributing his quota to the revenue for such a purpose, than he has in paying the duty on his daily articles of consumption.

In France, by the discouragement of private voluntary aid, the funds for charity are always low; and still there is discontent at the tax, though, to any party but the government, more would have been willingly given even by those who now loudly complain. The result is, in France (and would be here, were the same system pursued), that when the holders of the public purse come to consider how hard and unpopular it would be to tax more heavily still, and how many things appear to press a little more or rather nearer home than the needs of the sick poor do, the hospitals continue comparatively neglected and ill supplied.

With these facts in view, we never hear without anxiety even the whispers (for at present they are nothing more) of how admirable a plan it would be if the management of our great and richly-endowed charitable institutions could be *centralized*, and, as it is hinted, have the irregularity and apparent confusion which result from the diversities in their system corrected and assimilated in a unity of design; such as might be effected by a small number of commissioners.

Long may that day be averted, when the spirit and system of centralization, such as they are developed in the workings of the New Poor-Law, spread from workhouses to hospitals. No doubt their rich rent-rolls do present a most tempting sight to those whose fingers itch for the economic management of others' funds; but may they long be preserved for benevolence to distribute, as benevolence has supplied them; and though "the age of *charity* is gone, and that of sophisters, economists

and calculators, has succeeded," may our hospitals still continue to be the fields on which kindness and philanthropy may yet be exercised with independence, and confer happiness alike on the giver and on the receiver.

IMPRISONMENT OF THE SANE IN MADHOUSES.

It is now about a twelvemonth since we directed the attention of our readers to this painful subject*. In one case detailed on that occasion, a young man was convicted of madness because he lay in bed till ten in the morning, and alarmed the neighbourhood; added to which, Sir J. S. Lillie thought that his disliking to go to the lunatic asylum at Hanwell was a strong proof of insanity. In another, a patient was shut up in the asylum at Peckham, because, when let out, his tavern bills were unpleasantly large. In a third, a boy of a violent and selfish temper, with the additional disadvantage of having relatives at once irritable and affectionate, was sent to a madhouse, by way of substitute for a strict school. All this may be mighty convenient to "irritable and affectionate" relations, but strikes us as being any thing but just. It is strange to see how easily certificates are signed, when angry relatives have predetermined it. No incoherence so slight, no action so neutral, but is assumed as a proof of insanity. The other day, a Mr. Robinson, whose sanity was the subject of investigation, played a game of cribbage, at the request of his own wife, in order to show an eminent mad-doctor that he could count. The physician was satisfied with his counting, but alleged, in his evidence, that had Mr. Robinson not been mad, he would not have consented to play the game! In good truth, this method of investigating the state of a man's mind, with a predetermination to find it unsound, reminds us of Goldsmith's account of the way of ascertaining if a dog is mad. "A crowd gather round a dog suspected of madness, and they begin by teasing the devoted animal on every side: if he attempts to stand upon the defensive and bite, then he is unanimously found guilty, for a mad dog always snaps at every thing; if, on the contrary, he strives to escape by running away, then he can expect no compassion, for mad dogs always run straight forward before them*."

In an instance, however, which has just occurred, the intended lunatic has been more fortunate, and has come off with flying colours. Mr. Paternoster, it seems, quarrelled with his relations, and did not always express his displeasure with the coolness of a sage or an epigrammatist. It would be well if a man always recollected that *ira furor brevis est*, and that if a couple of cool medical practitioners happen to witness his wrath, he may find himself deposited within the iron gates of some asylum before he can recover his composure. Those, on the other hand, who are requested to sign certificates should reflect that tempers vary like temperaments, and that a thin irritable man, dried up in a tropical climate, does not talk like a reviewer. As Dr. Johnson said, when he was asked why he did not write like Addison; "Sir, Addison had his style, and I have mine!" Some less tolerant practitioners, however, signed Mr. Paternoster's certificate, and he was conveyed to Mr. Finch's asylum, at Kensington; but it was so clear that he was not mad, that when the Metropolitan Commissioners saw him, they gave notice to Mr. Paternoster's father, that if *he* did not release him *they* would! Mr. Paternoster, on being released, brought an action against Mr. Finch, and all the other persons concerned in the affair, and it came on for trial a week ago. The suit was compromised, on condition of the defendants paying all Mr. Paternoster's costs, as between attorney and client, and giving him an annuity of £150 per annum. This annuity, we believe, was the original bone of contention, and Mr. Paternoster's indignation at its being withheld was interpreted into madness. This case will be a useful warning to every one not to sign certificates on the representation of interested parties: the law does not ask us to give testimony as to what we have heard from others, but what we have seen ourselves.

* Med. Gaz. Feb. 23, 1839.

* Citizen of the World, Letter 69.

ROYAL COLLEGE OF SURGEONS.

Feb. 14th, 1840.

Mr. J. H. Green's Hunterian Oration.

The theatre of the College of Surgeons was occupied this day by one of the densest crowds ever collected for any purpose. The well-known merits of the orator attracted many of his confrères from distant parts of the country. His Royal Highness the Duke of Sussex honoured the occasion by his presence; and we observed amongst the visitors the Bishop of London, and many other eminent political and scientific characters.

After an allegorical kind of exordium, Mr. Green stated that the staple of his address would consist of an explanation of the "scientific idea" which occupied John Hunter's mind whilst following his physiological pursuits. Preparatory to this, the orator entered into an elaborate explanation of the metaphysical notions entertained by the deservedly celebrated Coleridge, and which are calculated to subvert the utilitarian speculations too prevalent in the present day. Mr. Green rendered the task of following his ratiocination most difficult, by employing many abstract metaphysical terms in a sense different from their accepted signification; by coining several new terms; and by the profuse employment of metaphors.

If we rightly understood Mr. Green, his purpose was to throw out into relief that operation of the mind which is generally designated as "the forming of an hypothesis." This is a mental act which must necessarily precede the inductive process originally explained by Lord Bacon. The whole business of induction is to supply proof of the truth of a theorem; and it is obvious that the mind must first conceive this theorem before it can proceed to apply it to particulars. In the aptitude to form these theorems consists the force of what is called inventive powers; the simple contemplation of facts, phenomena, and changes, is but an inferior part in the business of "interpreting nature;" by far the most important part is the effort of "forming the theory." Many minds had been occupied in considering and explaining the facts which, in chemistry, are considered as examples of "electric attraction;" but, it required the genius of a Dalton to "body forth" the theory of "definite proportions;" the truth of which is illustrated by every successive electro-chemical discovery.

In like manner, the inventive genius of Oërsted and of Faraday have struck the scientific idea of a new dynamic principle, which, when not exhibited in the various forms of chemical affinity, assumes the phases of electric, magneto-electric, and electro-magnetic phenomena.

The mind of John Hunter was as richly endowed with this "dynamic faculty" as any human intellect that ever was created. All his experiments and dissections were guided by one leading "scientific idea;" and his mighty museum is but the development of this creating principle, which seems to express, in a language of unerring perspicuity, the history of its progress through every rank of animated nature. Hunter's "idea of life" was that of an unvarying "dynamic principle," whose agency was illustrated in every modification of living being; and, doubtless, this apostrophising of the vital principle animated his exertions, and formed the guiding light to his splendid discoveries.

Tributes to the merits of Professor Coleman, Mr. Clift, and Professor Richard Owen, evidently elicited the cordial approbation of the auditory; and at the end of the address, which lasted nearly two hours, the orator was loudly applauded.

Idios.

ROYAL MEDICO-CHIRURGICAL SOCIETY.

Feb. 11, 1839.

Sir B. C. Brodie, Bart. President, in the Chair.

Remarks on the Diagnosis of Foreign Bodies in the Larynx. By Cæsar Hawkins, Surgeon to St. George's Hospital.

The author remarks that many of the recorded cases of this kind have terminated fatally from chronic inflammation, in consequence of the operation for the removal of foreign bodies not having been performed for many weeks, or even months, after their accidental introduction; and that the delay in these instances has probably arisen from the difficulty in the

diagnosis. He is induced to offer the present case to the attention of the society from it not having been marked by any of the signs which are set down by authors as those on which most confidence should be placed in forming a diagnosis. For example, the difficulty of breathing was unremitting; no noise could be heard by the striking of the substance against the vocal cords; the feverish excitement was considerable; there was absolutely no cough whatever after the first few seconds; and instead of the noise in breathing being chiefly on inspiration, it was heard on the day of the accident only in expiration, and on the following day it was equally audible in both portions of the respiratory process. The case is briefly as follows:—A young lady, 12 years of age, was suddenly seized, while taking some soup, with violent vomiting and suffocating cough, which lasted for a short time, and then left her with a noise in breathing, and a fixed pain beneath the cricoid cartilage. When the author saw her, she was breathing without labour, but with a croupy sound, and complained of tenderness, referred chiefly to the cricoid cartilage. She could swallow without difficulty. On the day after the accident, as the symptoms continued unabated, an opening was made into the trachea below the thyroid gland, and the patient was desired to cough repeatedly, in the hope that the body might be ejected, but without avail. Feeling the substance fixed just above the opening, the author extracted it with a pair of forceps, and found it to be a portion of one of the cervical vertebræ of a sheep, nearly half an inch long. The voice was perfectly restored in about two hours, and the patient recovered. In the records of seventy or eighty cases searched by the author, he has been able to find only one presenting similar symptoms to those which characterised the case now related.

A Case in which Tracheotomy was performed for the removal of a foreign body in the Air Passages. By Benj. Travers, Esq., F.R.S., &c. &c.

A child about six years of age, while seated on the ground eating cherries, was suddenly thrown backwards, and immediately seized with a violent fit of choking and every symptom of impending suffocation, which is said to have lasted a full hour. This accident was followed by spasmodic pain in the chest, dyspnœa, and other symptoms of acute inflammation, but the cough ceased so entirely for a considerable time, that the surgeon in attendance concluded that the offending body had passed down the œsophagus, and not into the air-tube. The symptoms, however, recurring with great violence, Mr. Travers was called to see the patient, and, at his first visit (two or three weeks after the accident), found the breathing stridulous and laboured, the pulse small and hurried, the countenance suffused and anxious; there were frequent paroxysms of croupy cough, with much consequent exhaustion. The author opened the tracheal tube between the isthmus of the thyroid gland and the top of the sternum to the immediate relief of the patient's breathing, and the cough did not return for some days, but no foreign body escaped from the wound. Before leaving the patient, the author passed a silver catheter upwards through the larynx, with a view of ascertaining that the tube was not obstructed in that direction. Six or seven weeks after the operation, the wound was allowed to heal, when the cough shortly re-appeared, with night sweats, and loss of appetite. About a month after the closure of the wound, the cherry-stone, which had passed into the tube, was ejected in a violent fit of coughing, accompanied by a small quantity of pus. The relation of the case is followed by some observations on the phenomena presented by it, and several others previously recorded in the transactions of the society and elsewhere.

CORRECT VACCINATION, AND IMPEDIMENTS THERETO.

From the Report published by the Provincial Medical and Surgical Association.

In order that the subsequent observations may have a clear and definite meaning, we think it necessary to lay down plainly what we conceive to be required to render the process of vaccination as perfect as possible. We have been constrained to adopt this course from observing the great discrepancy that exists between the statements of different individuals with respect to its protecting power, which we are convinced could not have happened to such an extent, had uniformity of practice been followed.

From the commencement of this practice, efforts were made to ascertain when it had fully taken hold of the constitution, so as to afford reasonable hope of future security. The comparative mildness of the affection rendered this an important point of consideration, and up to this hour it has lost none of its interest. The only perfect test is that which arises from the insertion of the variolous lymph, but as that is on many accounts objectionable, it is better to find out, if possible, some other.

The first to which we would advert is the regular progress of the vaccine vesicle, and we would lay it down as an axiom

never to be forgotten, that no one is qualified to speak of its effective character who has not, at suitable periods, noted this progress. The genuine disease can only be produced by pure lymph from a regular source. The time for taking this lymph, according to Dr. Jenner, is between the fifth and eighth days, and before the formation of the areola. Others have recommended the use of lymph taken at a much later period; but this we believe to be a very questionable practice, and ought never to be followed. It is very true that the affection may be propagated by virus found in the scab, but this only succeeds when active lymph is preserved in a dried state within the scales.

A test, dependent upon the successful progress of vaccination, was very early noticed by Dr. Jenner, and subsequently brought forward by Mr. Bryce, of Edinburgh. He proposed that some fresh vaccine lymph should be inserted into the patient a few days after the first vaccination. This practice was founded on the observation that the second vaccination proceeds with accelerated speed, provided the first has taken effect. It is a very simple and beautiful illustration of the constitutional effects of vaccination, and deserves to be encouraged. An experienced eye will for the most part be able to detect any deviation from the true vesicle. Unfortunately, the means of making correct observations are often denied to medical men, and any thing that would secure greater attention to this branch of the subject would be of high value, and unquestionably would have prevented many of the failures that have recently taken place.

The second point demanding unvarying assiduity, is the character of the lymph employed. It never ought to be taken from a vesicle which deviates in the least degree from the perfect standard, nor from a patient labouring under any cutaneous disease. It is to be feared that these rules have not been punctually observed; and that deviations have been propagated, which afford varying degrees of security, according as they approach to or recede from the healthy character.

A third point which ought ever to be insisted upon, is the leaving one or more vesicles to run their course without being in any way disturbed. This canon was introduced at a very early period, but we have more than cause to suspect that it has been often defeated, either by the carelessness of parents, or the hurried manner in which vaccination is sometimes performed.

Another point on which perhaps too much stress has been laid, is the appearance of the cicatrix. It is true that after regular vaccination, it generally assumes an uniformity of aspect well known to medical men. The medical officers of the army and navy are compelled to rely a good deal on its appearance; and all recruits on whom it is supposed not to be perfect, are subjected to vaccination. The experience obtained from these services, is, so far as it goes, in favour of information derivable from this criterion. We are satisfied, however, that by itself it ought never to be absolutely trusted, and we must repeat here, what we have already observed, that nothing but a watchful inspection of the progress of the vesicle will justify any one in speaking with confidence of the security likely to be attained.

From all we can learn, we are inclined to believe that though the presence of a perfect cicatrix is not a sure sign of protection, its absence must be held to speak strongly against the existence of vaccine influence. The peculiar appearance of the cicatrix is caused by the reticulated or cellular structure of the vesicle. The same organization occurs also in variola. Now, if the vesicle has been repeatedly opened or broken, the ulcerative process that succeeds destroys the organization of the cells, and leaves a cicatrix nearly smooth, instead of the well-defined indented surface, which may for the most part be seen after complete vaccination. It may also be observed that many persons who have been extensively marked and seamed by small-pox have had subsequent attacks of that disease, proving that after perfect human small-pox, as well as after perfect cow small-pox, a second attack may occur.

Mr. Dodd, of all our correspondents, seems to have paid most attention to this part of the subject. Of fifty-seven cases that had been exposed to the contagion of small-pox and escaped, in six only was the cicatrix perfect; in fourteen it was slightly defective; in thirty it was very imperfect; and in seven it was totally wanting. Out of seventy-seven cases of small-pox after vaccination, one bore a perfect mark, fourteen had the cicatrix slightly defective, forty-seven were imperfect; and fifteen had none at all. Thus, to sum up the whole, out of one hundred and thirty-four cases of vaccinated persons who had been exposed to small-pox, the cicatrices of seven were perfect, and one of these failed; twenty-eight slightly defective, of which fourteen failed; seventy-seven very imperfect, forty-seven of which failed; twenty-two had no marks at all, and of these fifteen had small-pox, while seven altogether escaped.

Our correspondents amply justify us in laying down the foregoing principles; and we also think from the evidence before us, that vaccine lymph, though passed through a great number of subjects, and used for a

great number of years, does not necessarily become deteriorated. This, however, can only be said when unceasing attention is paid to every successive transmission; for if a deviation commences, it may be perpetuated, and afford a gradually decreasing protection. There is no doubt that lymph of this kind has been often used. We have satisfactory illustrations of this truth from several of our returns. We will mention one out of many of this kind. Mr. Fox, of Cerne Abbas, thinks that more cases of small-pox have occurred after vaccination performed ten or twelve years, than after vaccination performed thirty years ago, and that this arises from the extensive propagation of imperfect cow-pox, which only affords a diminished amount of security. A remarkable instance came under his observation a short time ago. A father and two children were inoculated with fresh small-pox virus from the same child, and at the same time; both children caught the disease, and the father escaped, though he had been vaccinated more than thirty years. It will be observed in subsequent parts of our Report, that failures are noticed at all periods from a few weeks after vaccination up to thirty or more years. It has been supposed that they are most common at and after the age of puberty; but this is certainly not the opinion of our correspondents in general. Some, it must be admitted, do affirm that small-pox has more frequently occurred in persons recently vaccinated than in those at a remote period, while others assert that time makes no difference.

The influence of cutaneous diseases on the progress of the vaccine vesicles is a point, too, demanding greater attention than it has hitherto obtained. At a very early period Dr. Jenner discovered that the affection was very much modified in its progress by the scaly tetter, and those affections described by Dr. Willan under the term *psoriasis*, as well as those vesicular eruptions commonly called herpetic. He observed that vaccination performed on a skin occupied by any of these diseases, "produces every gradation from that slight deviation from perfection, which is quite immaterial, up to that point which affords no security at all." We have seen the herpetic affection occupying the angles of the mouth, the upper portion of the lip near the nostrils, or the tender skin behind the ears, cause the vaccine vesicle to assume an incorrect form, containing an opaque fluid, with an irregular efflorescence of a dusky red colour. We have also seen similar irregularities commencing from a like cause, which completely disappeared on destroying the herpetic affection, by applying a little of the liquor plumbi. The case to which we at present refer was under the immediate direction of Dr. Jenner himself. The premature and jagged efflorescence round the vaccine vesicle had appeared. He immediately detected the cause; and by the application above alluded to, destroyed the disease of the skin. In a very short time the deviation disappeared, and the vaccine affection subsequently ran its course in a regular manner. It does not uniformly happen that vaccination is thus impeded by the pre-existing cutaneous maladies; but wherever the disturbance is in the slightest degree manifested, the vaccination ought to be distrusted, and repeated as soon as the skin has been brought into a healthy state.

It is a very long time since these truths were impressed upon the public mind; but we have had many proofs that they are not yet sufficiently considered; it is, therefore, our duty to recal them. Dr. Jenner's last publication particularly refers to this point of practice; and we know that it caused him much disquiet that his admonitions and instructions were so little heeded.

Among those of our correspondents who have had most experience, and whose success has been most uniform, we find unequivocal testimony to the accuracy of Jenner's doctrine on this head. Many have made no observations at all respecting it; while some mention dentition, general ill state of health, scrofula, &c., as impediments to vaccination.

Other constitutional peculiarities stand in the way both of human small pox and cow small-pox. Some resist these affections at one period of their lives and not at another; and there are examples of the very opposite condition, which show that the individual will receive either infection as often as it is presented to him. These peculiarities frequently run in families. We know several children of the same parent, who have had modified small-pox after cow-pox; and not many months ago three brothers had small-pox after small-pox, one of these cases proving fatal. On this subject we have illustrations from Mr. Dodd, who tells us that six brothers and sisters in one family having been vaccinated when children, had the small-pox a few years afterwards. In another instance, two sisters, vaccinated in infancy, were subsequently inoculated and had small-pox slightly; they both caught the small-pox again in 1837, and one of them had it very severely. Their father caught small-pox; their mother too, who was inoculated when young, had it again in the same year; their maternal grandfather, beholding from a window at night, the funeral of a friend who had died of small-pox, sickened of that disease and died. These are a few of the affinities and concordances be-

tween human small-pox and cow small-pox; and we doubt not that every subsequent observation will establish the analogies. In confirmation we farther remark, that the great object of inoculation with human small-pox was to produce an affection as much like that of cow small-pox as possible, and by great care in selecting the virus to be employed this was sometimes accomplished in a very remarkable degree. On the other hand, it is known that the disease, when casually caught from the horse or cow, is often a severe one—as severe, it was said by an experienced observer, as for the most part was inoculated small-pox. We ourselves have seen it, when caught from the horse, exhibiting great intensity, the hands and arms being covered with the eruption.

We will conclude this subject by an extract from one of Dr Jenner's unpublished letters. "The greatest of all impediments to correct vaccination is that which arrises from an herpetic state of the skin; indeed, compared with this, all the rest are as dust in the balance; and when the rules which I have again and again laid down respecting this point, and for so long a period, are attended to, then, and not till then, will the confidence of the public be fully established as to its preventive power."

OBSERVATIONS

ON THE

EFFECTS AND MODE OF APPLICATION OF REMEDIES.

By Jonathan Osborne, M.D.

Physician to Sir Patrick Dun's and Mercer's Hospitals, &c.

Scammony.—I find in my notes, that several years ago I experimented on the scammony in use at Sir Patrick Dun's Hospital, which establishment is always supplied from the most respectable sources. Half an ounce of scammony was treated with ten parts of rectified spirit, and formed a light straw-coloured tincture, which was insipid to the taste, but left after it an acrid sensation in the pharynx.

Of the scammony employed, two drachms and eighteen grains were dissolved. This tincture was evaporated, and a residue obtained, which was transparent, of a dark yellowish colour, and of a resinous lustre and fracture. It was given as follows, with the following effect.

Rose Delany (phthisis) has been usually purged by castor oil; took four pills of four grains each, at intervals of three hours. Had two dejections, one at night, the other this morning. Slight tormina after the first pill.

Brig. Corcoran (ulcer of leg) took four of the same at same intervals. One dejection this morning. No tormina or nausea.

Mary Bias (heptatis), four pills as above. Began to operate about six hours after first taking. Nine dejections during the night. No griping, but some slight nausea.

Brig. Corcoran (bis) four pills as before. Operation commenced in seven hours after first taking. Four dejections without tormina or nausea.

The alcoholic extract was treated with cold water, and yielded a small proportion of extractive, which was found to possess no purgative quality; but when heated, emitted the peculiar odour resembling that of old cheese. It had a sweetish but slightly acrid taste, and was deliquescent.

The part insoluble in alcohol was treated with water. After digestion for several days it yielded about six grains of gummy insipid extract, which had no effect as a purgative.

The residue, insoluble both in water and alcohol, weighed fifty six grains, had no purgative effect, and appeared principally to consist of gravel.

The above examination being rather medical than chemical, it is not necessary to apologise for the want of minuteness in the measurements. It is sufficient to show that the purgative quality of scammony resides exclusively in the resin. Hence the tincture would be a useful and efficient medicine, being nearly tasteless, and by adding it to syrup of roses or of ginger, it could be given to children without its presence being perceived.

Thread setons.—The ordinary seton, although a measure of great value when it is desired to keep up a permanent counter-irritation, is yet often attended with much unnecessary pain and inconvenience. Especially in the nape of the neck, the size of the strap of threads or gum elastic introduced into the opening is productive of general discomfort and teazing, not well calculated to diminish a tendency of blood to the head, but rather on the contrary. I have adopted a plan which will be found better suited to many of such cases. It is to make a seton with an ordinary sewing needle of the thickest kind, and one thread of oiled silk. This is passed through a piece of the skin held between the finger and thumb, about six inches of the thread being allowed to remain. In twenty-four hours considerable redness comes on, and in a few days a purulent discharge is set up, much more in quantity than a comparison between the size of it and of the ordinary seton might lead to expect. The opening gradually enlarges, and no doubt in process of time, like the perforations made in the ears for ear-rings, assumes the function and secretion of a mucous membrane. The trifling

degree of pain, however, inflicted by the operation, enables us to multiply those setons, and to substitute new for old ones, so that I think it is evident that in this way a greater discharge and a more efficient counter-irritation may be maintained, with less inconvenience than by the ordinary setons, and in places where the former would be impracticable.

Belladonna.—There is one property of belladonna, which I mentioned in a medical report of Sir Patrick Dun's Hospital in 1831, and which it has proved itself to possess in every instance, without exception, since that time; so that it is unnecessary to detail cases on the subject. It is this, that it causes an immediate cessation of the migratory or flying pain of rheumatism, without producing any effect on the fixed pains. In this way it acts like a charm both in acute and chronic cases, and when it is recollected that in acute rheumatism, especially, the greater part of the suffering, and that most refractory to ordinary treatment, is the perpetual shifting of pain along the direction of the muscles from one joint to another, its value in all such cases will at once be admitted. The dose I give is one-third of a grain, thrice daily, increased to half a grain every third hour. After trying various combinations, I prefer to give it in simple extract of gentian, as much as is sufficient to secure its accurate division into pills. Having observed its efficacy to be confined to the pains shooting along the direction of the muscles, and that any abatement of pain which it produces in neuralgia, or where the pain pursues the course of the nerves, is of a very inferior degree, and attended with great uncertainty, it appears to me that it acts on the muscular fibre belonging to the voluntary muscles, as on the iris, and by stopping the spasm which is always present in severe cases, causes a cessation of the peculiar pain. This kind of pain always resembles fatigue, causing general restlessness and inability of remaining long in one position; and suggests very much the sensations experienced after excessive muscular fatigue, when the spasms, not of entire muscles, but of fibres, prevent sleep, while at the same time they produce a feeling of intolerable weariness.

Emetics of ipecacuan in hæmorrhage.—Having already (Trans. of the Association, vol. v.) stated the uniform success attending this treatment, I should not repeat it here, were it not that some authors, who have subsequently treated professedly on diseases of females, have entirely omitted to mention it. I have only to add, that with me it has never as yet failed, except when the progress of the case afterwards proved the formation of scirrhous or cancerous structure. The remarkable effect of emetics of ipecacuan in restraining hæmorrhage, is not confined to this organ. In a case of violent epistaxis, in which several remedies were ineffectual, I tried it while preparations were going on for plugging the posterior nares, and with success, so as to render that measure unnecessary. In hæmoptysis, I am unable to add to the facts already known respecting its efficacy, being of opinion that hæmorrhage from the lungs is always salutary, and that the practice of giving the mineral acids, &c. to discourage it in phthisis is injurious. A very considerable benefit is generally perceptible, after the vessels of the diseased lung have been unloaded by this discharge. When, however, a violent hæmorrhage takes place from the lungs, and blood is expectorated in such quantities as to endanger life, then all our efforts must be directed to its suppression. In a late case (not phthisis) I failed with the emetic, but as I lost sight of the patient subsequently, I am unable to pronounce as to the cause of the hæmorrhage, and therefore as to the cause of the failure.

ON THE SYMPATHY BETWEEN THE CEREBELLUM AND THE TESTES,

By Dr. J. Budge, of Altenkirchen.

It is well known that Gall places the organ of the sexual appetite in the cerebellum; and the remarks of subsequent physicians have often been directed to the subject, though without having yet arrived at any definite result. For even if one collects all the known cases of diseases of the cerebellum, as Burdach has done, one finds, indeed, that an actual affection of the sexual organs has occurred in no small number of such cases, but that in a great number, nay, even in the majority, none such has existed. In like manner cases have occurred to every observant physician which are favourable to such a connection of the two organs; and, again, others which, though in other respects similar, afford no such evidence. A more certain and incontrovertible proof is wanted; and I have at length succeeded, by experiments on numerous animals, in demonstrating this influence of the one organ upon the other, in the most simple, distinct, and certain manner.

For these experiments old cats are the best animals that can be employed; and they may be made upon them either during life, or still better immediately after death. The experiments were repeated so often, that there could not be the least doubt in regard to their result; and though,

in some animals, the phenomena were far more marked and distinct than in others, yet in all they were so similar, that the relation of one will sufficiently illustrate the whole.

In a 12 year old male-cat, who had been killed by a wound of his heart, the whole of the skull was removed as quickly as possible, and then the abdominal cavity opened, and both testes, with their spermatic cords and vasa deferentia, exposed; all of which occupied but a few minutes. Not the slightest motion was observed in the testicles. I now stimulated the cerebellum with the point of the knife; and I had done so for scarcely so much as three seconds, when one testicle raised itself up, and moved from the spermatic cord on which it had lain, so as to form nearly a right angle with it. At the same time it became more and more tense. The more I irritated the cerebellum, the more the testicle moved. I stimulated hither and thither, but the two testicles were never moved at the same time. I soon discovered the cause of this remarkable fact. When I stimulated the right lobes of the cerebellum, and the right half of the commissure, the left testicle always moved: when, on the other hand, I stimulated the left lobes, and the left half of the commissure, then as regularly the right testicle rose up. I had thus the movement of the testes entirely under my control, so that I could make one or other move as I wished; and I continued the experiment for full half an hour.

The cerebellum is, then, the part at which the nerves of the testes have their terminal point; the nerves also cross each other in the brain as those of all the rest of the body do; and they must lie tolerably superficially in it, because a deep irritation does not succeed in producing the motion of the testes. It seems probable to me, that the union of the nerves takes place in the region of the first cervical vertebra, because stimulus of this part of the cord is very often accompanied by erection and discharge of semen, as in the hanged, &c.

This simple observation is of the greatest importance in many physiological and pathological phenomena. Thus from this connection, the hitherto inexplicable sympathy between the testicles and parotid gland is accounted for by nervous communication. Perhaps also the relation of the testes to the growth of the beard is explained by this connection, since the trigeminus nerve may be traced in its ultimate roots to the part where the union of the nerves of the male sexual organs may be conceived to take place; and the nervous trigeminus is distributed in the face, and, most probably, contains organic fibres, which are concerned in the growth of the hair.

It cannot be thought remarkable, that in so many diseases of the cerebellum, the sexual organs should still not suffer. For, in the first place, the whole cerebellum is certainly not to be regarded as the central point of the sexual nerves, but only a part of it; and if this part does not suffer, the sexual organs will remain healthy; and, in the second place, one would be wrong in thinking that every disease of the cerebellum must act in such a manner on those organs as to procure a distinctly observable disease. One may suppose that if the part where the nerves meet were compressed, impotence would probably result; but how many men are impotent without even knowing it.—*Muller's Archiv. Heft.* v. 1840.

DISEASES OF CHILDREN.

By Dr. Ramisch, of Prague.

Case I.—*Death from Lumbrici.*

A child, aged 3, was thrown into epileptic fits by the slightest cause; it was more sensitive and irritable every month, and the attacks appeared to become almost periodical. At last it was suddenly seized with convulsions, and died. On examination, the sinuses of the dura mater were found to be congested, and there was some serous exudation in the vetricles. The stomach was puffed up with air, the liver full of blood, and the spleen small. In the small intestines several firm and knotty elevations were observed, on the upper surface of which some redness was here and there to be seen. These intestines contained a considerable quantity of thick mucus, and eleven large lumbrici, which by their various twisting formed the elevations, and in some places almost entirely filled up the aperture of the intestine.

Case II.—*Purulent Discharge from the Ears.*

A boy, aged ten weeks, being convalescent after *febris hydrocephalica*, had a purulent discharge, first from one ear and then from both. Against this the author prescribed nothing but cleanliness, ordering the ears to be washed out with tepid water, and to be carefully wiped with a piece of fine linen. As long as the discharge was confined to one ear, he directed the child to lie on the same side, but afterwards on each side alternately. When an inclination to costiveness came on, he provided for a due evacuation of the bowels by a mixture of fennel water with tincture of rhubarb, magnesia, and syrup of manna, or syrup of succory and rhubarb.

Case III.—*Injurious use of Opium.*

A child, aged four months, had a diarrhœa, and the ordinary medical attendant prescribed a powder consisting of one grain of Dover's powder and six grains of white sugar; on which the diarrhœa immediately ceased, but the patient became indifferent to every thing, and would not take the breast. The author being called in found the child almost in a state of sopor, with its eyes sometimes shut, and sometimes half open, but they were lively when the child appeared to wake. There were no stools, the abdomen was by turns soft and tense, the tongue clean, the pulse and temperature of the skin unaltered, and the child did not seem to suffer any pain. The author ordered the abdomen to be fomented with cloths dipped in an infusion of the *species aromaticæ*, and a teaspoonful of the following mixture to be taken every hour.—

℞ Aq. Fœnicul. ʒij.; Tr. Rhei aquos, ʒj.; Magn. Carb. gr. vj.; Syrup Fœnicul. ʒiij.

The child soon recovered.—*Weitenweber's Beiträge, Schmidt's Jarbücher.*

EXPERIMENTS UPON THE MOTOR AND SENSITIVE ROOTS OF THE NERVES.

By Dr. Kronenberg, of Moscow.

These experiments were, in part, suggested by those of M. Magendie, which we published in our number for the 3d of August, and from which it was deduced, that the anterior roots of the spinal cord acquire a certain slight degree of sensibility by means of a circle of sensitive nervous influence, which passes from the posterior columns through the posterior roots, the ganglion and the anterior roots, to the anterior columns of the spinal cord. Other somewhat similar experiments showed that the facial nerve acquired the share of sensibility which a portion of it possesses from its communications with filaments of the fifth pair.

The experiments which Dr. Kronenberg made were as follows:—The facial, before its union with the fifth pair, was more or less sensible; but after it was divided between this union and the brain, irritation of the distal portion, which was connected with the anastomosis, produced pain, though not constantly. He then exposed the lumbar region of the spinal cord, and found the motor roots sensitive, though much less so than the posterior were. But, that the sensibility of the motor roots did not depend on filaments coming to them directly from the spinal cord, but on the sensitive roots, appeared from the following experiments:—If the motor roots were irritated, while the sensitive were uninjured, pain was produced; but if the latter were divided, then the former lost their sensibility. After dividing the anterior roots while the posterior remained uninjured, the distal portion of the former was always sensitive; but the proximal (that still connected with the spine) never was. It was the same with the anterior portions of the spinal cord, which was painful on irritation only when the posterior roots were not destroyed.

Lastly, to render the subject still more clear, and to acquire a knowledge of the course of the filaments bestowing this sensibility on the anterior roots, the following experiment was made:—A small incision, about half a line deep, was made at the point of connection of the uninjured roots, so as to enlarge the angle of union, and at once all the phenomena above mentioned were put an end to; the anterior root, with the adjacent portion of the spinal cord, became insensible, and, after dividing it, both its portions were equally without sensation. This simple and easy experiment proves to a certainty, first, that a part of the fibres of the sensitive root goes to the point of union of the two roots, and thence returns through the motor root into the anterior portion of the cord; and, secondly, that the turning back of the fibres takes place close to the union of the two roots.—*Muller's Archiv. Heft.* v. 1839.

REMEDY FOR HYDROPHOBIA.

By Dr. Asmus.

The history of the remedy is as follows. The Thömer family at Stolp possessed the receipt as long as any one could recollect, and distributed the medicine. Chemical examination did not succeed in discovering its composition. Often as it had been used, no case was known where hydrophobia had appeared after its employment, not even when the first symptoms had indubitably begun to manifest themselves. The directions are, that the person bitten is to swallow three times as much of the powder as can be taken up with the point of a knife, for three days running, in the morning. It is to be taken fasting and in warm beer, and the patient is to wait till perspiration comes on. No particular diet is required, nor scarifying or cauterizing of the wound. Many respectable persons pledge themselves to the unusual efficacy of this remedy, which was commu-

nicated to Dr. Asmus by the last Thömer. Its composition is as follows:—

℞ Lap. Cancror. ppt.; Pulv. rad. Gent. rubr. aa. ʒij.; Bol. rubr. ʒj.; Gummi myrrhæ. ʒss. M. ft. pulv. subtilissimus.

Med. Zeit. and *Schmiat's Jahrbücher.*

COMPLETE ABSENCE OF THE IRIS.

By Dr. F. Prael, of Brunswick.

A blond country girl, æt. 27, who was in good health, but had menstruated very late, and was of small stature, had had weak vision from her childhood, was near-sighted, and when an infant had often had a reddish glimmering in her eyes. On examination, the eyes were at once remarkable for the narrow and deep apertures of the eye-lids, and for the peculiar, though not vacant expression, which the raven-black appearance behind the cornea gave them. The upper eye-lid was extended transversely across the upper half of the cornea; it moved sluggishly, and the author never observed it to be drawn up. The eye, though defended by thick-set and very delicate eye-brows, was yet very sensitive to common day-light; its ball continually moved hither and thither; its axis was directed downwards, and the ciliary border of the upper eye-lid was constantly vibrating, though the lid itself hung down inactive and broad. The patient had never suffered from any inflammatory or painful affection of the organ, though, to avoid the light, she kept her head constantly turned downwards. The bulb had its natural size, though a somewhat elliptical form. The snow-white sclerotica contrasted strongly with the deep black colour of the interior of the eye. In neither eye was there the least trace of iris; the lenses were of a dull greyish white colour, and atrophied, and they oscillated on every motion of the steady eye-ball. On looking at a near object, they sank deeper down; but in viewing a distant one, they rose up, and formed an inclined plane. In the right eye especially, the cataract sank so deep, that it sometimes lay quite below the inferior margin of the cornea. With proper spectacles the patient could discern a large print; and, in looking at it, the cataracts became fixed in their deeply-sunk position. Her vision was sufficiently good to enable her to carry on her common occupation, and, therefore, no treatment was adopted to improve it. In another case, reported by the author in Graefe and Walther's journal, there was only a very narrow ring in the place of the iris; but it lay behind the lens which was affected with cataract, and immoveably fixed in the anterior chamber, and it therefore seemed to be entirely deficient. In this patient the rudiment of the iris completely obstructed the entry of the light, and there was less sense of sight than in the preceding, though, as the eye was not unsteady, nor covered by the lids, and had its axis in the normal direction, its vision had been quite good till the lens became opaque. In the first of these cases, the author believes that the malformation must have had its origin from an early month of fœtal life: in the second, that the arrest of development probably took place in the fourth or fifth month. In both it was remarkable that the defective formation of the iris coincided with a late development of the generative organs.—*V. Ammon's Monatsschrift*, Bd. 1; H. 5; P. 501.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Feb. 6, 1840.

J. W. Griffith, 9, St. John's Square, Clerkenwell.—T. Hatchard, Plymouth.—T. P. Parker, Sunderland.—W. H. Booth, Sheffield.—H. M. M. Meadows, Ipswich.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Feb.* 11, 1840.

Abscess	1	Fever, Scarlet	1
Age and Debility	28	Fever, Typhus	2
Apoplexy	2	Gout	1
Asthma	7	Heart, diseased	1
Cancer	1	Hooping Cough	3
Childbirth	3	Inflammation	8
Consumption	35	Brain	2
Convulsions	16	Lungs and Pleura	6
Croup	1	Insanity	2
Dentition	1	Measles	2
Dropsy	2	Stone & Gravel	1
Dropsy in the Brain	2	Unknown Causes	99
Erysipelas	1		
Fever	3	Casualties	4

Decrease of Burials, as compared with the preceding week . . . 75

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Feb.	Thermometer.	Barometer.
Thursday . 6	from 33 to 45	29·61 to 29·75
Friday . . 7	35 53	29 55 29·37
Saturday . 8	36 45	29 40 29·50
Sunday . . 9	30 47	29·61 29·67
Monday . . 10	45 49	29 53 29·63
Tuesday . . 11	34 49	29·70 29·89
Wednesday 12	42 50	29·69 29·66

Winds, S. and S.W.

On the 9th, 11th, and 12th, generally clear; otherwise overcast, with frequent rain. On the morning of the 10th a heavy fall of rain.

Rain fallen, ·3 of an inch.

Charles Henry Adams.

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, FEBRUARY 28, 1840.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.

Surgeon to the St. Marylebone Infirmary.

DISEASES OF THE SKIN.

Erysipelas.—*Nature, Symptoms, Causes.—Pathological Appearances, Treatment.—Considerations on Leeches, Scarifications, Actual Cautery, Sinapisms, Blisters.*

The question, whether diseases of the skin are in the domain of the Lectures on Medicine, or in that of Surgery, is undecided. We cannot wonder, therefore, that they are claimed by both. I believe that no lectures can convey to you an adequate knowledge of these diseases, except by ocular demonstration; by clinical instruction. As I maintain that you cannot learn them either from verbal description, or from any pictorial representations with which I am acquainted, I propose to give you a practical demonstration of most of them in the St. Marylebone Infirmary. The opportunity which I can there afford you is of an unusually advantageous nature; for in that establishment there are rarely less than fifty cases of those cutaneous diseases most commonly met with in practice, so that I shall be able to make you familiar with the appearances which they present, and with the treatment which my own experience has shewn me to be most generally successful. I need hardly say that this method of making you acquainted with cutaneous diseases is incompatible with the adoption of any particular system. The extent of our instruction must be contingent upon the supply of materials; but I hope to be able to shew you a great portion of those diseases most commonly met with, and which are included in the eight following orders:—exanthemata, vesiculæ, bullæ, pustulæ, papulæ, squamæ, tubercula, maculæ.

By an *exanthematous* disease, we mean one characterised by red, more or less extended, more or less regular patches, which disappear under pressure, and which end in resolution or desquamation. By a *vesicular* disease, we understand small collections of a transparent serous fluid, by which the epidermis is raised, which may become opaque, or even sero-purulent; the fluid is absorbed, slight desquamation and excoriation, or thin crust, may follow. By *bullæ*, we understand a vesicle of larger size. By *pustules*, purulent collections formed on the surface of the inflamed mucous tunic. The fluid they contain is followed by scabs, or crusts, of varying thickness, and usually they leave after them chronic induration, or red inflamed surfaces, or slight ulcers. By *papulæ*, small, solid, resistant elevations, never containing any fluid, sometimes susceptible of ulceration at their summits, but usually terminating by resolution, or by a furfuraceous desquamation. By *squamæ*, laminæ of epidermis, dry, whitish, friable, and of varying thickness, surmounting small, more or less red, inflamed, papulous elevations. They are susceptible of being detached and re-produced for an indefinite time, by successive desquamations. By *tubercula*, small hard tumors, more or less projecting, circumscribed, and permanent; they may ulcerate at their summit, or partially suppurate. By *maculæ*, permanent discoloration, or spots of a greater or less extent of the cutaneous surface, without any derangement of economy. In these eight orders the greater number of the diseases of the skin are grouped.

I have stated that you cannot learn

these diseases either from verbal description, or from any pictorial representation with which I am acquainted; and as a proof of this, I will now show you some patients suffering from eczema, psoriasis, and lepra; and after having carefully observed these, I beg you to turn your eyes to the representations of these several diseases in the works before you, which are the best continental and British authorities on the subject, and you must at once be convinced of the correctness of my opinion. As you cannot learn from plates what it is so desirable you should know, and as simple descriptions can never realise in your minds the objects now before you, I offer you this, which I apprehend to be the only means by which you can acquire a competent knowledge of a class of cases which are often very distressing to the patient, and not unfrequently embarrassing to the practitioner, which are often extremely obstinate, and which create more discontent in the minds of patients against their medical attendant than almost any other disorders which they are called upon to treat. The practitioner, ignorant of the nature of the affection, promises the speedy removal of a disease, such as chronic eczema, which may for months or even years resist every kind of treatment which can be employed. If, therefore, I can imbue your minds with the principles which are to guide you in diagnosis, and store you with the treatment which is found most serviceable in each case, I shall rest satisfied that my labours have not been in vain.

In the study of these diseases you have one source of comfort which is wanting more or less completely in others. In diseases of the digestive or respiratory system, after very careful examination, after using all the improved means at our disposal, and pronouncing very positively upon the affection, an examination after death often shews how very limited is our power of diagnosis—how liable to error. In those of the skin, the elementary lesion is often directly before our eyes; we may watch its development; its progress and its decline; may observe the modifications which age, temperament, constitutional peculiarity or occupation, may impress upon it; and our diagnosis will rarely be a matter of difficulty. By a careful attention to these circumstances, we may usually, with great facility, distinguish the primitive forms which characterise *orders*, and the characters upon which we found *species*. If, then, you are called to see any of these diseases at an early period of their existence, you will not be assailed by serious difficulties; you will easily determine whether the disease be like this; exanthematous, like that,—vesicular, like that,—pustular, papular, or squamous; and that point carefully determined, by bearing in mind the characters of the elementary lesions which distinguish these several orders, you will next bear in mind the genera which each order contains, and which are comparatively few; and by excluding one after another, you will ordinarily have little difficulty in coming to a correct diagnosis. Recollect, however, that the elementary lesion is not all which you have to learn; if it were, your labours would be very light; unfortunately we are often requested to see the disease when no pustule or vesicle can be seen; when, in the progress of the affection, the elementary lesion has undergone certain modifications, and thus our difficulties in diagnosis are increased: it is therefore absolutely necessary that we should study not only the development but the progress and termination of these affections. A vesicle, for instance, has disappeared; but, as in the case before you, of eczema rubrum, it has so modified the cutaneous structure, that, to a casual observer, it might appear to be a squamous disease. A pustule, as in this case of impetigo sparsa, may have been succeeded by a scab which may present somewhat of the appearance of a turbercular disease, or may leave under it a small ulcer, as you see at this point. Many similar modifications might be pointed out; but those are sufficient to illustrate my meaning. It is very true that in many cases, although the affection may be masked in this way at one point, it may be successively developed at others; and thus at some point we may find the disease in progress of development, and obtain the key by which the difficulty is to be overcome. It is true also, that, in vesicular diseases especially, the disease creeps on from a single or many points, enlarging often from a centre; and in these cases we may, by examining carefully the circumference of a patch, discover the disease in the several stages of its existence, and thus remove all doubt; but these circumstances are often wanting; the disease may be stationary; and our only mode of diagnosing, is to make ourselves thoroughly acquainted with the disorganising and peculiar effects which are exercised by each affection upon the cutaneous texture.

Now let us endeavour to apply our means of diagnosis to a case: here is a patient who presents, as you see, small serous collections, or vesicles, between the fingers, and on the inside of the arm; they are distinct, pointed, transparent at the summit, accompanied with itching: look at it; you see it is not a collection of pus; it is not a solid resistant elevation, or circumscribed induration; still less is it a

papular elevation covered with dry hard scales; nor a well-marked injection of the integuments, disappearing under pressure. It is not therefore pustular, papular, tubercular, squamous, or exanthemic; it is vesicular. Now we must find out what species of vesicular affection it is; it is not miliaria, it is not varicella, because these two diseases are accompanied by general disturbance of the economy; besides, in one the vesicles are globular, very numerous; in the other, they are larger, and more inflamed; it is not herpes, because it is characterised by vesicles united in groups—these are separate. Now there only remains eczema and scabies; the vesicles of eczema are flattened—here they are pointed; they are usually more or less agglomerated in eczema—here they are distinct, therefore it must be scabies.

But even when you have acquired a knowledge of the elementary lesion, and of the changes which mark it progress, your difficulties are not entirely removed; the affection may still be modified by accidental circumstances: a vesicle is destroyed by scratching, and may present a scab more or less resembling that of a pustule, and render the affection obscure; you must, therefore, in diagnosis, not lose sight of these circumstances: you must follow me attentively while I point out the consecutive changes to which the several elementary lesions give birth. Here is a patient who presents scabs, yellow, rough, thick, occupying both legs, and here and there leaving after them small excoriations, upon which new scabs are formed: you have no difficulty in determining that they are scabs, but it is necessary to consider what is the order which presents scabs: some bullous affections present them, phemphigus, and rupia; but neither of them presents this diffused character which the present affection exhibits; we must, therefore, seek for the disease amongst the pustulæ. It is not variola, or vaccine. It is not ecthyma; its pustules are usually larger, isolated, presenting blackish adherent incrustations, succeeded by ulcerations. It is not acne; its pustules are rarely succeeded by true scab, more commonly by chronic indurations. There now remain only porrigo and impetigo; we have therefore only to compare these two affections. Porrigo, as you see from the only case of the disease I have to show you, presents such a distinctly marked character, that it is impossible to mistake the present case for that affection: it is, then, a case of impetigo; and the character it presents points out the species of this affection to which it belongs; the scabs are dispersed over considerable surfaces on both legs—it is impetigo-sparsa.

You must at the same time recollect that there are other circumstances to bear in mind in the diagnosis; such as the seat of the eruption, its form, its progress, and the general condition of the patient, which will materially assist us. Another difficulty which is now and then presented, is a consequence of the occurrence of different elementary lesions on the same individual at the same time. In the scalp of this child you see eczema and impetigo; and if you were not aware of this frequent co-existence, you might be supposed to treat it as a single disease; you might apply the alkaline sulphurets, and thus, most probably, aggravate the eczema.

Again; here is a case of great interest—the patient, a young woman of twenty-five, was admitted, suffering from gastric derangement, the tongue with red edges, and tenderness in the epigastrium; the next day our attention was directed to a large cluster of vesicles of simple eczema, surrounding the neck; the vesicles close together, and without areola—the itching was slight. We remarked, that the constitutional disturbance was greater than is usually seen in simple eczema. Leeches were applied to the epigastrium, and saline purgatives, with antimony, exhibited. The next morning it became evident that the digestive derangement might with more propriety be referred to erythema papulatum and nodosum, very well marked, which affected the legs, the arms, and the backs of the fingers. This gradually yielded, and was immediately succeeded by another eruption, to which I called your attention; pointing out, at the same time, the difficulty which sometimes attended its diagnosis. This eruption was presented between the fingers, upon the arms, and on the chest; it is eczema impetiginodes. You recollect how strongly some persons believed in its being scabies; and this is not singular, for the seat of the disease was like—it was also vesicular; but the vesicular period soon yielded to the pustular, and the itching was considerable. How, in fact, was the diagnosis to be made satisfactory? The vesicles of eczema are flattened, those of scabies are acuminate, those of eczema are agglomerated; in scabies they are usually as you see here, isolated and distinct; the itching in eczema is stinging or burning, that of scabies is a not unpleasant sensation; and, in the present case, she was scarcely shaking off the eczema simplex. Now, you have seen this case under treatment for a considerable time, and may have

concluded that medicine does not exercise a very decided influence over it; and that is true, when the disease assumes any thing like a chronic form. In this case, we have kept the bowels moderately acted upon by saline antimonial medicines; and she has taken acid drinks—locally sulphuret of potash, which did not seem to agree with it; for this was substituted an emollient decoction of barley and poppies, with nitric acid, with much relief. We have tried to arrest the development of the disease by cauterizing the vesicles, but the result was not sufficiently advantageous to induce us to apply it largely or generally. Under the present treatment, laxatives and acids, with acid lotions, the case is doing well. If much irritation continued, I would try alkaline applications; but, at present, it does not seem necessary to make any change.

Although diseases of the skin may affect all ages and both sexes, yet many of them are usually seen at distinct periods of life. Porrigo impetigo, and several of the exanthemata, are ordinarily diseases of infancy; acne is a disease rarely seen before the age of puberty; certain occupations seem to predispose to some of these affections. Again; the seasons have a very marked influence on their development. Spring is the season in which the greater proportion of these diseases are manifested. Climate seems also to exercise a very decided effect upon cutaneous affections, and they appear to be more intense in tropical than in temperate climes. But there is nothing more necessary to bear in mind, than the intimate sympathy which exists between diseases of the skin and the digestive organs, and more particularly the stomach. Nothing can be more clearly shown than the influence of the stomach upon diseases of the skin; the effects are, sometimes, almost instantaneous, especially in certain idiosyncrasies. Muscles, oysters, crab, mushrooms, almonds, vinegar, and many other substances, will, in such cases, affect the whole of the cutaneous surface in a few minutes after their ingestion. These affections are, usually, soon dissipated; but, occasionally, it is believed that their effects may be more permanent; thus it is said that oatmeal produces scabies, that the use of pork tends to produce tubercular lepra and elephantiasis; and that, for this reason, Moses, and afterwards Mahomet, prohibited the Jews and Mussulmen from eating it. The ingestion of certain medicines is succeeded now and then by similar results: thus, copaiba and belladonna may excite eruptions whose characters are those of roseola and urticaria.

During the time the humoral pathology reigned, cutaneous secretion and excretion were held to exercise immense influence upon the development of cutaneous affections. The skin was regarded as the natural emunctory of all fluids which were not carried off by the ordinary organs of excretion. I have no doubt of the important influence which this organ exercises upon cutaneous disease. In health, if you place the patient in a hot-air bath, and when transpiration becomes abundant test it with litmus paper, it immediately presents an acid reaction; and I have no doubt that in ordinary exhalations from the skin a large quantity of acid is so carried off. I had, the other day, a patient suffering from psoriasis, who, when placed in a vapour bath, yielded a similar powerful action upon litmus paper; but, I have never yet, in any state of disease, discovered an alkaline reaction. In lepra and psoriasis, you will commonly see the kidney endeavouring to perform the function which the skin has abandoned; you will find uric acid thrown down in considerable quantity in the urine. Indeed, the ordinary treatment in these diseases, the use of alkalies, shows strongly that the suspension of the cutaneous function has allowed of an accumulation of acid in the system. In fact, take the squamous, and even papular affections, and you will find a dry, and more or less harsh skin, producing no exhalation in a large number of cases. It will be very desirable, in the different affections of the skin, to test the urine, as well as the cutaneous exhalation, which you can excite in a vapour or hot-air bath; and which may materially assist us in treating these affections; and this subject I am now pursuing. Squamous and some papular diseases are often very materially benefited by alkalies. Vesicular affections, such as herpes and eczema, are often cured under an opposite plan of treatment, the exhibition of lemonade, &c. I hope, before long, to show you, in these excretions, some reasons for this success; and some circumstances calculated to point out the treatment which may be probably beneficial in each case.

Cutaneous affections, though often extremely intractable, rarely threaten the life of a patient—scarlatina, small-pox, and erysipelas, excepted. We ought, however, to be extremely guarded in giving a prognosis, for nothing is more common than to see a disease, apparently trifling, resist, for a long time, every mode of treatment which can be employed. It is necessary to take into account not only the local but the general state of the patient: it is believed by many persons that some diseases should be respected; that they exercise a beneficial action upon the

economy, and that it may be desirable not to interfere with them. Now, although I entertain no such fears from repercussion, although I do not apprehend that the dissipation of a disease from the exterior must necessarily fix it upon an internal organ, yet, I am quite ready to admit, that, under the influence of irritation of organs, in either of the great cavities of the body, cutaneous affections of long standing are every now and then dissipated, and are again manifested when convalescence is fully established. I do not, however, regard it as a transference of disease, for the internal inflammation has preceded the disappearance of the eruption. Neither am I disposed to believe, with Hahnemann, that most, or many of the diseases of the economy, are owing to the re-percussion of scabies or other skin affections. Do not, in the treatment of these affections, fall into the common error of believing that general treatment is all that is necessary for their cure; or believe, that sulphur and its combinations are universal specifics. I shall show you cases of eczema, produced by sulphur; indeed, nothing is more common than to see it developed in our itch wards during the use of this medicine: and I shall show you a multitude of cases, in their nature tractable, but greatly aggravated by improper applications. If it were necessary to frame an unbending rule for the local treatment, it would clearly be wise to say that the application should be emollient and unirritating.—This rule would apply to a large proportion of cases; but the opposite treatment, in a great number of cases, is quite as essential and beneficial Sometimes, when the disease is limited, local treatment is sufficient for its cure; but usually, general treatment is necessary: for, most frequently, these affections are connected with a state of the economy upon which local treatment has no effect.

ERYSIPELAS.

We now proceed to consider a disease which is one of the most common of the inflammations of the skin, and which you will have frequent opportunities of treating—erysipelas. I believe erysipelas to be a non-contagious disease, marked by a more or less deep red colour of the skin, with heat and tumefaction of that membrane, and frequently of the subcutaneous cellular tissue. The surface affected is often extensive; in rare instances it has been known to affect, at the same time, a larger portion of the body. In a large proportion of cases, except when traumatic, it affects the head, the face, and the limbs; particularly uncovered parts. Celsus states, that erysipelas of the legs was common among the Romans. In many cases the inflammatory action is limited to the skin; in many others, the subcutaneous cellular tissue is affected to a greater or less depth, and then the symptoms are much more serious. The former is described as simple; the latter as phlegmonous erysipelas.

Symptoms.—The ordinary symptoms of erysipelas are lassitude, occasional rigors, occasional painful tumefaction of neighbouring lymphatic ganglia, hard and frequent pulse, nausea, epigastric pain, headache, thirst, anorexia, constipation; and these are the early signs of both forms of the disease. Usually on the third day from this febrile attack, sometimes sooner, erysipelas is developed. When it is confined to the skin, the pain at the point is sometimes intense; soon a vivid redness is seen: there is tumefaction where the redness exists; this is shewn by the raised edges. When the cellular tissue is lax, as in the eye-lids and the prepuce, this tumefaction may be very great. If you press with the finger, this redness disappears, and more or less rapidly returns; but pressure is often painful. The heat which accompanies this eruption is acute and burning, the temperature being three or four degrees above the neighbouring parts; the pulse is accelerated; there is nausea, thirst, a bitter taste in the mouth, and a white covering on the tongue. The cuticle, at the part, may be raised into bladders by a yellowish serum; these vesicles appear usually on the third or fourth day; they sometimes open on the succeeding day, sometimes later, and are often followed by thin crusts. In mild cases, towards the fifth or sixth day, the redness diminishes, and assumes a yellowish tinge, the tumefaction lessens, the skin looks shrivelled, and desquamation occurs. But when many blisters exist, the brownish scabs may continue for a long time. Erysipelas, however, is rarely brought to such a speedy termination; it often extends from point to point until it has passed over a considerable part of the body. Occasionally, instead of extending thus, it appears at distant points. A case is recorded by Renauldin, where, in a woman of fifty, the greater part of the surface was affected at the same time; another case of "universal periodical erysipelas" happened in the practice of Mr. Maule.

Though we see erysipelas at all seasons, it is most frequent in spring and autumn. It occurs more frequently in woman than in man; Frank says, in the proportion of four to one: of 633 cases seen at the Central Bureau at Paris, 326 were females. The register of this establishment shows a proportion of nearly three to two.

Causes.—It is difficult to assign a cause for erysipelas: it may succeed to the irri-

tation of a leech-bite, or that of a wound or blister; but there is in each case a constitutional tendency to it. By some persons it is attributed to particular articles of food; but we know nothing certain about these things. Some persons will suffer several times a year; some every month; but in such cases we find nothing to explain this frequency. In some persons it has succeeded immediatcly to the suppression of an habitual evacuation, to mental disquiet, to a paroxysm of passion. Fallopius speaks of a woman who, every time she fell into a passion, (and this was often,) got erysipelas of the nose. Such facts have led to the belief that the causes of erysipelas are accidental, and not constitutional. I believe accidental causes to be secondary or exciting only, and that, in most cases, a predisposition exists.

Atmospherical constitutions are very important elements in the production of this disease; in certain seasons, and certain years, atmospherical conditions, insensible to any of our modes of investigation, dispose so decidedly to erysipelas, that the slightest wound, leech-bite, or most trifling operation, or even inconsiderable irritation of the skin, suffices to determine the disease. It may, then, take the character of an epidemic. Tozzi speaks of an epidemic which existed at Naples in the autumn and winter of the year 1770; it was complicated with epistaxis. Bromfield describes an epidemic which existed during two years, in which the head was particularly affected; antiphlogistic treatment was especially fatal; bark and cordials were most beneficial. Besides atmospherical influence, in many cases erysipelas seems to occur without any occasional cause. When an accidental "cause" has preceded its development, we find that the same cause has existed many times before without occasioning the disease; something more is therefore necessary When an epidemic influence prevails, the disease is developed under a vast variety of circumstances; the slightest wound or irritation of the skin excites it. That erysipelas is frequent as a consequence of wounds of the head is true; but then it must be recollected that spontaneous erysipelas of the head and face is, perhaps, ten times more frequent than that of other parts of the body.

If we understand by *contagion* the faculty of transmitting by immediate contact, or inoculation, a disease, from one subject to another, (and this is the actual meaning of the term,) we should say, in the present state of our knowledge, that erysipelas is not contagious; but if, by that expression, we convey the faculty of communicating a disease from one subject to another, by means of the passage of an atmosphere which surrounds the first, to the second, then I would not deny the possibility. Costallat describes a case which is strongly urged as evidence of the contagious nature of erysipelas. A woman, suffering from the disease in the face, was attended by a friend, and died at La Charité. In a few days afterwards her companion occupied the same bed, and also died of the same disease. A third, who had watched over her, became similarly affected, but survived. These cases, it is held, are sufficient evidence of its contagious nature. Here, as in all question as to the transmissibility of diseases by contact, the partisans of contagion say nothing of the previous condition of these persons. It may have been the same in each case. We happen to know a case where, in quick succession, three persons, who had severally attended upon a woman suffering from the disease, were in turn affected: they were all removed. The disease then broke out next door among persons who had no intercourse with their neighbours. In ten days it again attacked a person in the former house. These were crowded filthy lodging-houses, and to these circumstances, rather than to contagion, should the disease be referred. The people themselves believed it to have been propagated by contagion. I do not, therefore, think we have proof to warrant us in saying that the disease is contagious: no doubt, in many cases, it will pass from ward to ward through a whole hospital; no doubt that at those periods the smallest wound is in much danger of becoming erysipelatous; but it is also true, that it may one day appear in a ward, at one extremity of a large hospital, and the next day at the opposite extremity, although there has been no direct communication between them. We are, therefore, much more justified in assuming atmospheric than contagious causes of its development.

When erysipelas affects the head, the danger is considerable: it is rarely limited to the scalp, but generally extends to the face, which is usually œdematously tumefied, but the redness is much less decided than in other situations; and the lymphatic ganglia of the neck are often swelled. When the head and face are about to suffer, the precursory symptoms are very decided; the rigors are severe, the patient at once takes to his bed, the pulse is quick, there is often violent headache, sleeplessness, or uncomfortable dreams; after one, two, or three days, a red spot appears, and soon extends to the whole head and face; when the tumefaction is so great as utterly to obscure the features.

Pathological Appearances.—A very general impression exists, that erysipelas leaves no

trace after death; but it is incorrect. Certainly it is singular that there is scarcely any disease, of the pathological anatomy of which, until lately, so little was known. Scarcely any traces of it do we find even in the works of Morgagni. When death occurs in the course of an attack of erysipelas, a brownish tint is present where before it was red, the epidermis is very easily removed, and pressure is followed by very decided pitting. Ribes believed that the small tegumentary veins were very obvious, that their internal tunic was red and inflamed, and that their cavity was sometimes filled with pus. If the disease terminate in gangrene, the parietes of these small vessels become blackish. Cruveilhier and Copland admit the correctness of this statement. That such appearances occasionally exist is true; but they are not constant.

Treatment.—If we consult the records of our profession, we see that erysipelas has been successfully treated by the most opposite means. This, on slight reflection, we can understand, because these symptoms do not mark an identical alteration, but very different pathological conditions. Thus it is that the antiphlogistic, the repellent, the counter-irritant, the ectrotic, the evacuant, the mercurial, the tonic, the compressing, the incising, and the expectant methods, all have their successes. The treatment of erysipelas, therefore, depends upon the seat and extent, as well as the general symptoms of the disease, and the condition of the patient. If, by its violence, it threaten life, very energetic means must be employed; but in those far more numerous cases, where the symptoms are not pressing, the disease will often do well without any treatment. Experience has amply proved that in the general run of cases great benefit will be derived from the use of emetics and purgatives, though they may not sensibly abridge the duration of the disease. As to bleeding, either local or general, it must be employed very cautiously; for a comparatively small bleeding will be often quickly followed by great prostration, or even typhoid symptoms; and I have never known them to abridge sensibly the duration of the disease. In the St. Marylebone Infirmary I have treated, in the last two years, thirteen cases of erysipelas of the head and face—twelve successfully; in one only was blood-letting employed. They were treated at first by purging, and afterwards by tonics and stimuli; the local application being warm poppy fomentation. In a large number of cases internal means should be simple—lemonade, if it do not derange the bowels. If all go on well, no other treatment will be necessary; but if bilious derangement occur, some persons advise the uses of emetics and calomel purges, and even blood-letting. My own experience induces me to abstain from violent means in such cases; rigid diet will often succeed better; still if gastric derangement be decided, great good will often follow the exhibition of an emetic. If there be great excitement, blood-letting, guardedly practised once, may give great relief; but it is very rare that it is necessary to recur to it a second time; laxatives and rigid diet are then absolutely necessary. In a large number of cases erysipelas will be presented to you with adynamic symptoms; tonics and stimuli must then be administered. I rarely rely upon tonics; their action upon the system, in this condition, is not sufficiently rapid; the heart's action must be excited by alcoholic stimuli; to maintain it so, tonics will be found useful; but if there be much stupor, you must associate with them blistering at the back of the neck, or between the shoulders. I certainly cannot subscribe to the system of repeated blood-letting in erysipelas of the head and face; a few cases will require it, and do well under it; but the greater number will fail. As to local remedies, the catalogue is long; but the efficacy of most of them may be fairly doubted. Those repellents which we employ in common inflammations of the skin must not be used here. If we could look upon erysipelas as a completely local inflammation of the skin, no doubt refrigerant applications might be made; but it is not so; therefore I say, in a large number of cases, if practicable, give the affected part an elevated position, protect it from cold, and use only warm water or poppy fomentation.

As to the application of leeches when applied to the inflamed surface, many men believe that the effect is better than when applied at a distance; Lisfranc and the Broussais school strongly recommend them to be so used. Mr. Lawrence has also strongly urged the good to be derived from the employment of this means.

Scarification has been employed, and, it is said, with great success, by Lassis, Dobson, and Bright. Slight punctures, from fifteen or twenty, to one or two hundred, are made by the point of a lancet over the inflamed surface, and the flow of blood is kept up by the application of warm sponges. The operation may be repeated two or three times in twenty-four hours, if the redness and tension be great. This method of treatment Babington has found very useful in the erysipelas of old men, associated with quinine. My own experience convinces me that scarifications are very rarely necessary in the erysipelas of old people.

Gama has applied camphor in powder upon erysipelas "with success." It is sprinkled on the part; or it may be applied between wet cloths, or upon the surface of a poultice. The apparatus is to be kept so moist as to ensure evaporation, or the effects are not manifested. Mr. Higginbottom, of Nottingham, strongly recommended lunar caustic, applied beyond the limits of this disease, for the purpose of preventing extension. I have very often employed it; sometimes with, sometimes without, success. In cases where the raised margin shewed that the disease was extending, I have often known it to fail: when the disease is declining, but still creeping, it will usually succeed; I may say the same of strips of blistering plaster. It will often pass through a blister or a caustic line. A caustic line has been made along half the extent of the erysipelas, placing no barrier against the other half, but the disease has not extended at either point. He also applied it upon the inflamed surface itself; and he says it destroys the inflammation, and that if it be applied, not only upon the whole of the affected part, but extended to some distance on the healthy surface, the disease will be arrested early, and the constitutional symptoms will quickly abate. Many other persons testify in its favour; but my own experience is less fortunate; I have often failed to do any good with it, and have rarely succeeded.

The *mercurial* method of treating this disease we must next consider. The mercurial ointment has been largely used in America and France; but I think the cures which have been supposed to result from the plan might more properly have been referred to the natural progress of the disease. In the small number of cases in which I have used it, it has appeared altogether powerless to arrest its progress. Ricord says his experience is very different. "If," says he, "erysipelas be simple, uncomplicated, I carefully diet, and give effervescing medicines; I then cover the whole surface with a thick coating of fresh, strong, mercurial ointment; it should be laid on without rubbing. Unless the patient be restless, and rub it off, that will do for twenty-four hours. The patient is quickly relieved, the pain abates; in twenty-four to forty-eight hours the cuticle shrivels, tumefaction ceases, redness and heat are dissipated, and by the third or fourth day all has disappeared."

As to *compression*, Meigs says, "considering that the blood-vessels of an inflamed part are deprived of their ordinary contractility, I think the best means of curing inflammation consists in compressing these vessels." Bretonneau has applied the system in erysipelas, and with success; it has also been employed by Theden and Velpeau.

Incisions were first employed as a means of treatment by Copland Hutchison and Lawrence. They advocated their employment whenever general treatment was insufficient. According to Lawrence they powerfully diminish tension, and relieve the distended blood-vessels. In many cases a single incision will suffice, but then it must extend as far as the tension. Samuel Cooper objected, that erysipelas might be well cured without incision, and that he had known cases in which it had been fatal. It may be fatal if done when exhaustion is very great, but then Lawrence recommended them to be employed early, to prevent suppuration and the extension of the disease. Gangrene may also, it is true, succeed to the incisions. As a general method I object to it; but where suppuration is impending, or has actually set in, it assists in the evacuation of pus; and more especially in phlegmonous erysipelas, it obtains a double result —the evacuation of those fluids, and constitutes an obstacle to the destructive progress of the disease.

The *revulsive* method consists in transferring the inflammation from a point where its presence is dangerous, to another where it is less so. Thus a mustard plaster to the feet may lessen erysipelatous action at the head and face; a blister placed upon the centre of a phlegmonous erysipelas may limit its extension. Kentish's liniment has been used for this purpose, Meigs says, with great success: he has employed it indifferently in every variety of erysipelas.

The *red-hot iron* I have never used, but it is a very favourite remedy with Larrey. He says, "without noticing the concomitant causes in the production of this disease, we ought promptly to use a remedy capable of arresting this peristaltic inflammation, by absorbing the morbid principle with the fluids of the part, and restoring the proper vital action to the part. The actual cautery produces this double effect, and the most extraordinary success has justified the use of it." Pelletan, at the end of the last century, strongly recommended it for this purpose. "Applied upon the reddest point, and if there be a wound, as near as may be to this, the red-hot iron suddenly arrests the progress of the inflammation." "It causes little pain; the heat and tension disappear, as well as the redness and tumefaction." I leave the responsibility of recommending this energetic remedy with its authors. I do not advise, neither would it be possible, to employ it generally.

Sinapisms are usually applied at a dis-

tance as revulsives, and are often useful. As to their application upon the inflamed points, or in their vicinity, I think they are much more likely to prove injurious than useful; they would probably excite gangrenous or phlegmonous inflammation.

The use of *blisters* has of late years been strongly advocated. In Spain they have from time to time been used; in France, the example of Dupuytren caused them to be pretty extensively employed. Whatever good may belong to them we owe to the Italians of the 17th century. Dr. Garcia Vas-Quez, Surgeon to Ferdinand the Sixth, says in his Spanish translation of Heister, that he has known cantharides applied upon two severe cases of erysipelas with much relief. Petit, of Lyons, also employed them, and particularly in phlegmonous erysipelas. The blister is applied for an hour or two; if that be not enough to subdue the disease, it is repeated; if left longer, it may be injurious. Blisters in the vicinity seemed to Mr. Lawrence to be very advantageous. In certain cases there is no doubt they will be found useful, but I object to their general employment.

You may estimate the value of remedies by the clinical returns of Velpeau, in 1834; of eighty-nine cases of erysipelas he treated nine by mercurial frictions, five by frictions of lard, twelve by emetics and purgatives, eighteen by blisters, fourteen by blood-letting, seven by cauterization, two by incisions, and twenty-two by emollients. His impression was, that none had been cut short, neither had their course been sensibly interfered with. I have already expressed my opinion as to the necessity of ordinarily limiting our local means to warm fomentation, except there be great tension.

If we compare all the methods which have now been passed in review, two fundamental consequences are naturally presented to the mind; that they are not directed to the essential cause of erysipelas, and that none of them can be adopted absolutely, but that all must be governed by the circumstance and complications of the particular case.

ON THE USE OF OIL OF COD-FISH IN SCROFULA.

By Dr. Taufflied.

The oil of cod has been extolled of late years in Germany for its advantageous use in some scrofulous diseases. My inquiries have led me to the conviction that it is really a valuable remedy. I gave an account in the Gazette Médicale for 1837, p. 502, of several cases of scrofulous caries treated with oil of cod. They were not completely cured at that time, and are the first two of those which I am about to narrate. I must premise, however, that this remedy is not a universal one, and does not extend to every variety of scrofula; a conclusion in which my observations agree with those of M. Brefeld. I will add, that even among the scrofulous affections which the oil of cod is capable of curing, some do not yield to it, except under the influence of certain conditions which are indispensable to the success of the treatment. To prove this we will go through several cases which belong to different varieties of scrofula, and examine the results obtained by the medicine under different circumstances.

Scrofula of the Bones.

Case I.—A young man of scrofulous constitution, who had been blind for several years (probably in consequence of scrofulous ophthalmia), towards the end of the summer of 1836 experienced the symptoms of vertebral caries. He had pains in the dorso-lumbar region; he gradually grew weak; there was complete paralysis of the inferior extremities, with projection of the spinous processes of the first two lumbar vertebræ; and, finally, a large abscess formed by congestion near the sacrum. Two large issues were made near the seat of the disease, but without advantage.

In February 1837, the patient was in such a state of marasmus that speedy death was to be feared. On the 10th of the month the use of the oil of cod was begun, in the dose of four spoonfuls a day, and was continued perseveringly for the following month. Contrary to all expectations a gradual improvement took place. In the month of August, the hectic fever had completely disappeared; the young man had gained flesh; he walked with ease, and pressure on the prominent vertebræ was no longer painful; but there remained in the sacro-lumbar region an abscess of the size of a new-born infant's head. The skin over the abscess was not red, but so distended that it seemed as if it must soon break, to give exit to the pus, the fluctuation of which was quite manifest. This tumor remained stationary for nearly two months; it then slowly diminished, and in January 1838 it had entirely disappeared. As the cure seemed complete, the use of the oil was discontinued; and one of the issues was allowed to heal, but the other was retained.

About June 1838, fresh pain was felt in the lumbar region, and the legs again grew weak. The patient had recourse to the oil, and these alarming symptoms

soon disappeared; but an abscess had formed again near the sacrum, and the swelling was as big as an egg. The use of the oil was perseveringly continued, and the pus was soon re-absorbed, so that at present the only appreciable traces of it are a slight elevation of the skin, and a little fluctuation. The young man is in good health; the spinous processes, indeed, project considerably, but pressure on the vertebræ is not painful.

The patient consumed about thirty-six pounds of oil of cod, in two years and a half.

In this case the disease continued to progress until the administration of the oil. We cannot, therefore, attribute the cure of the vertebral caries either to the efforts of nature, or to the action of the issues, which were clearly shown to be insufficient, by the continued progress of the disease. The improvement began precisely when the oil was first given, in February 1837. I lay stress upon the date, because this remarkable improvement coincides with one of the seasons least favourable to the success of the treatment. However this may be, the cure continued to make progress until the time arrived when it was thought that all treatment might be discontinued, and the cure left to nature alone. A few months afterwards, during the finest season of the year, and though one of the issues continued to suppurate, disease of the vertebræ again appeared, and again yielded to the use of the oil.

I do not think it possible to doubt the favourable influence of the medicine in this instance.

The case just narrated affords, moreover, a rare and curious example of the spontaneous resolution of a congestive abscess through the re-absorption of the pus contained in it. This fact, to which there are but few parallels in the annals of science, ought not to be lost sight of in practice. I am convinced that the maxim that abscesses by congestion are to be opened early has been too much generalized. The practice is not without danger, and may be followed by fatal symptoms, in spite of Boyer's preventive precautions, and M. Lisfranc's method of combating them.

It is my opinion that such abscesses should not be meddled with, while there is any hope of their being re-absorbed. As long as the skin which covers them is perfect, and is neither thin nor red, the absorption of the fluid is possible, and the tumor may disappear, provided we can succeed by appropriate treatment in drying up the source which supplies the pus.

Now this result may be obtained, as we have already seen, and we shall again see farther on.

Case II.—A girl, aged six, had been affected with a caries of the tarsus of the right foot from the beginning of the year 1835. The foot in February 1836 was a shapeless mass pierced by a number of fistulous openings. The disease had resisted, for nearly a year, a treatment consisting of the preparations of iodine taken internally, and the use of iodureted baths. Amputation would have appeared the only resource in so desperate a case, had not the general state of the patient, and, in particular, the existence of a dry cough, entirely contra-indicated any operation of this kind.

I ordered the foot to be continually fomented with a solution of four grammes of ioduret of potassium in sixty-four grammes of water, and the same quantity of alcohol (a drachm of the salt to four ounces of the vehicle.) At the same time I directed the foot to be compressed as equally as possible with a ribbon. The exhibition of the tincture of iodine was continued as soon as the irritation of the chest had been soothed. Under this treatment the swelling of the bones of the tarsus, and the ulcers of the soft parts, gradually diminished; but soon afterwards the disease remained stationary for several months.

I employed the oil of cod in the dose of two spoonfuls a day for nearly six months; a notable improvement soon followed the use of the remedy, and continued till the cure, which took place towards the end of 1837.

The patient still continues in good health; the bones of the tarsus have acquired their usual solidity, and the fistulæ have closed. The patient walks with ease; only the point of the foot is thrown out a little as she moves, which appears to depend on a slight hypertrophy of the internal portion of the body of the astragalus—a partial hypertrophy, which remains after the treatment.

Case III.—A little girl, aged five, was brought to me on the 17th of January, 1838, to be treated for a scrofulous swelling of the bones of the tarsus, and a painful *engorgement* of the elbow joint; the disease being of several months standing. On the inside of the foot there was a deep scrofulous ulceration, the centre of which was crossed by a fistulous opening. The movements of the elbow-joint were much cramped by its *engorgement*. Moreover, there was a very decided swelling of the cervical and sub-maxillary glands. Yet the general state of the child was satisfactory enough. After having employed emollient poultices for the swelling of the soft parts, I had recourse to the following treatment.

I ordered the foot to be compressed by a ribbon placed over pieces of linen kept constantly wet with the hydro-alcoholic solution of the ioduret of potassium mentioned above; I also prescribed frictions upon the elbow with an ointment composed of eight grammes of ioduret of potassium to sixteen grammes of lard (two drachms to half an ounce); and the internal use of the oil of cod in the dose of two teaspoonfuls a day; the dose to be afterwards increased.

In the space of four months the swelling at the elbow-joint disappeared entirely, and its movements became quite free. The swelling of the tarsal bones had almost entirely disappeared, and the child walked without much difficulty. The use of the oil was discontinued, which the child had always disliked extremely, and the dose of which could never be carried beyond two teaspoonfuls a day; but the local treatment was continued for nearly a year. In May 1839 there was a fresh and painful swelling of the tarsal bones, and the foot could not be used. The treatment above mentioned was resumed. There is now merely a slight hypertrophy of the body of the astragalus, like the one mentioned in the second case. Walking is easy enough, but the point of the foot has a tendency to turn outwards. As the swelling of the cervical glands has not disappeared under the influence of the treatment already mentioned, I have them rubbed with an ointment of ioduret of potassium made in the proportion of a drachm of the salt to an ounce of lard.

Case IV.—A girl, aged ten, of a scrofulous constitution, came under my care in June 1837. The head of the first metatarsal bone of the left foot was affected with caries; a probe easily penetrated through a fistulous opening to a bony surface deprived of its periosteum, and very rough. The bone of the right cheek was much swelled, so as to effect a very disagreeable change in the expression of the features. The caries of the bone of the metatarsus had resisted, for three years, the use of fomentations and injections made with a decoction of savine. For the caries of the metatarsal bone I employed the local treatment of which I have spoken above, and I made the patient take the oil of cod in the dose of three spoonfuls a day. At the end of five or six months the swelling of the metatarsal bone had disappeared; the denuded portion became covered with fleshy granulations, and the fistula, which had been open for three years, was at last completely cicatrized. The malar bone had gradually returned to a healthy state, although no local treatment had been employed for its swelling.

Case V.—A young lady, aged twenty-four, labouring under caries of the phalanges of the little finger, was treated with the preparations of iodine in the beginning of 1836. She took the tincture internally, and the diseased finger was covered with poultices sprinkled with a solution of iodine. The disease continued to make progress: the oil of cod was tried in January 1838. Two spoonfuls were given every day for six weeks, and the diseased finger was, at the same time, fomented with the oil. This treatment not having been followed by any sensible improvement, but the malady rather making progress, the caries was considered incurable, and amputation was proposed to the patient as the sole resource: such was the opinion of several good practitioners.

The patient came to consult me in April 1838. The little finger of the left hand had the look of a shapeless mass, in the centre of which we could distinguish the three phalanges considerably swelled, and, as it were, spongy. There were two deep ulcerations of a dull white colour on the external edge of the little finger, and the centre of these ulcerations was traversed by a fistulous passage. The skin was swelled, red, and shining. The first two phalanges were fixed to one another; but the joint between the metacarpus and the phalanx was capable of some motion, although the articulating extremity of the first phalanx was considerably swelled. The elbow and both knees had been swelled for some days.

After combating the inflammatory swelling of the soft part of the little finger by two applications of leeches to the healthy parts nearest to the diseased spot, I employed the local treatment which I have already mentioned several times, and at the same time gave the oil of cod in the dose of four spoonfuls daily. The finger soon grew smaller; the ulcers put on a more favourable aspect; and the pains in the joints also disappeared. This treatment was continued till August 1839, when the cure might be considered perfect. The finger is of its natural size; it is even smaller than the one of the other hand; the fistulæ have closed; and the bones of the phalanges have acquired their normal consistency; but the bone of the first phalanx has a remarkable depression at its external edge, a real loss of substance. The first two phalanges are anchylosed with each other, but the joint between the metacarpus and the phalanx is perfectly free. In the space of fifteen months, the patient consumed about twelve pounds of the oil of cod.

Case VI.—A girl, aged fifteen, of a lymphatic constitution, who had been affected for several weeks with a painful swelling of the nasal bones, used the oil

of cod by my advice in April 1839. Two months afterwards, the swelling had almost entirely disappeared. The patient, thinking herself cured, discontinued the treatment. In the month of August, a fresh and painful swelling of the bones of the nose came on, which again yielded to the oil.

In the second, third, fourth, and fifth cases, the patient underwent a general and a local treatment at the same time. We have now to examine how much was due to each of these methods severally.

In the second case, the disease diminished considerably under the influence of local treatment with the preparations of iodine, and compression. But when a cure was supposed to be at hand, the disease remained stationary for several months. The oil of cod was now added to the treatment already employed, improvement went on, and a cure took place.

In case the fourth, the patient was cured by a mixed treatment; but we may remark, that the malar bone was healed without any local application.

In the third case, the oil of cod, and the local treatment, were first employed simultaneously, and with success; at a later period the general treatment was omitted; but the disease re-appeared, and again yielded to the two kinds of treatment in combination.

In the fifth case, the symptoms augmented during the internal administration of the oil of cod, and its external use as a fomentation to the sore. The local treatment already mentioned was substituted for these fomentations, and the internal use of the oil of cod was continued. A cure was obtained, contrary to all expectations, but the treatment was very long.

In a word, the local treatment, when employed alone, succeeded but imperfectly (cases 2 and 3); the internal use of the oil sufficed to effect a cure in certain instances (cases 1 and 6); while in another case it was powerless. The mixed treatment was always efficacious. Let us endeavour to interpret these facts.

Scrofulous caries is both an external or local disease, and a distemper *sui generis*, depending on a generally vitiated temperament, of which it is in some degree the expression or product: whether we admit a real scrofulous diathesis, or whether we attribute to the lymphatic constitution of certain persons, the particular character which chronic inflammation of the bones puts on in them, we must still ever acknowledge the necessity of altering this morbid condition of the system, before we can hope for a solid cure from the employment of local or surgical means. The truth of this assertion is confirmed by the observation of every practitioner. But we have already seen, and shall again see farther on, that the oil of cod when administered with perseverance is able to effect an alteration in the constitution, and imprint a favourable direction on the organs of nutrition. This advantageous effect of the oil has shown itself, in the majority of the persons who have taken it, by the more or less speedy return of strength and plumpness, and by an indisputable influence on the scrofulous disease itself. Hence the oil of cod will fulfil the indications of the general treatment.

But caries being a local disease requires in addition some special treatment. Burrowing sores, fistulous passages, and particularly the ulcerations and swellings of the soft parts, are so many obstacles against which internal treatment can do nothing. Compression, and stimulating the ulcerated surfaces by the solution of ioduret of potassium in alcohol and water, have been the means with which I have always succeeded in getting rid of these obstacles. I am convinced that the oil of cod alone would have been insufficient to cure the caries in cases 2, 3, 4, and 5, while it was sufficient to remove the scrofulous swelling of the malar bone, and of the bone of the nose, in the 4th and 5th cases, and the caries unaccompanied by any external sore in the first case.

Hence the cure of scrofulous caries requires a mixed treatment. The efficacy of this method in diseases which so frequently resist the efforts of art, makes us hope that surgical intervention will henceforward be limited to a small number of exceptional cases which experience will teach us to distinguish.

Chronic Arthritis.

Case VII.—A young woman, aged 21, who was not yet regular, and who was of an eminently scrofulous constitution, had suffered for several years from a painful swelling of the femoro-tibial joints. The articulating extremities of the long bones were much swelled, and several of the cervical glands were tumid. The patient was subject to scrofulous ophthalmia, and often experienced vertigo, and other symptoms of congestion of blood in the head.

In June 1839, she was submitted to the following treatment: leeches were applied to the anus, and six grains of aloes were ordered to be taken twice a week, and four spoonfuls of oil of cod every day. The tumid glands were rubbed with an ointment composed of a drachm of ioduret of potassium to an ounce of lard. Three weeks afterwards, the catamenia appeared for the first time. In August, the swelling of the wrists and knee joints had diminished considerably; indeed, that of the knees had almost disappeared. Walking was now easy, which before had been

both difficult and painful. The swelling of the cervical glands had equally diminished. The patient now walks with facility; the swelling of the lower joints is quite gone, but that of the glands in the neck has not entirely disappeared.

Case VIII.—A girl, aged fifteen, who had not yet menstruated, of a scrofulous and cachectic constitution, had laboured, for several years, under a painful swelling of the right knee and the tibio-tarsal articulations. She had been suffering for six years under a swelling of the cervical glands, and of which several had formed abscesses at different periods. In June 1837, I prescribed frictions on the diseased joints with an ointment composed of half an ounce of ioduret of potassium to an ounce of lard; I also ordered the joints to be compressed, and four spoonfuls of the cod oil to be taken daily. The patient submitted to the local treatment, but refused to take the oil. Until the end of September, the disease went on increasing: the right knee was painful and much swelled, and the tumefaction of the tibio tarsal joints had also increased, while the limbs grew thinner and thinner. I insisted strongly on the internal use of the oil, and continued the compression. This mode of treatment was followed by a sensible improvement, and in a few weeks the catamenia appeared for the first time, and re appeared with the regular intervals. In seven months the swelling of the joints had entirely gone off, and the patient could walk with the greatest ease. After this, she gave up taking the oil, and the cure has continued perfect to the present time. The swelling of the cervical glands has diminished considerably, without disappearing completely.

In order not to be too long, I will merely mention the results of the following cases.

The oil was administered in three cases of coxalgia, with incomplete luxation of the thigh. In one of these instances the inflammatory symptoms were previously combated by an antiphlogistic treatment. After a treatment lasting several months, the patients were able to use their limbs, though they were more or less shortened. In another case of incipient coxalgia, the local pain, which, however, was by no means serious, and the lameness, readily yielded to the use of the oil. These patients were of a lymphatic constitution, without having well-marked symptoms of scrofula.

The oil was moreover administered to two women who had lost the use of their limbs for several years, in consequence of chronic rheumatism of the joints. In these patients, the power of locomotion was so limited, from the swelling and stiffness of all the joints, that it was necessary to carry them from one bed to an other. The use of the oil gradually removed the swelling of the joints. In five or six months the power of motion was re-established, and at present the patients are able to walk with considerable ease.

I cannot refrain from reminding the reader that the therapeutic powers of the oil of cod first showed themselves specially in rheumatic arthritis of the chronic form. It was afterwards employed with equal success against scrofulous white swellings. This perfect resemblance in the results obtained by the same treatment, in affections of an apparently different kind, seems to support the opinion of those physicians, who, like M. Brefeld, consider arthritic rheumatism in its chronic form, and scrofulous arthritis, as almost identical. The efficacy of the oil of cod in these diseases, whether scrofulous or rheumatic, is fully confirmed by the observations of Schenk, Günther, Wesener, Möning, Schütte, Brefeld, and other practitioners.

When the white swellings are acute or inflammatory, whatever may be their origin, a local or even a general antiphlogistic treatment ought always to precede the administration of the oil, the action of which is commonly too slow to arrest the rapid progress of an acute disease. In gouty arthritis, the oil of cod, as M. Brefeld remarks, has no efficacy. I found this to be the case in one of my patients, who was attacked with gout, and made use of the medicine.

Marasmus and Rickets.—Seven children, suffering from marasmus and rickets, took the oil, and six of them were completely cured. In the seventh, the oil did not produce a sufficiently rapid improvement to satisfy the parents, so that the treatment was given up, and the child sunk under marasmus. In the patients to whom the oil was given perseveringly, and regularly, the constitution improved in a remarkable manner after a few weeks of the treatment.

Swelling of the lymphatic glands of the neck.—Several patients, labouring under this disease, took the oil for months without any effect, at least upon the local malady. These scrofulous tumors disappeared, or diminished, in the greater number of cases, under the influence of frictions with the ointment of ioduret of potassium. In two instances, however, the disease resisted the preparations of iodine, used with perseverance, both externally and internally. This want of success appears to have arisen from some unfavourable hygienic circumstances.

Ophthalmia.—I have given the oil to several children attacked with scrofulous ophthalmia. But as the therapeutic in-

fluence of this remedy is commonly not shown till the lapse of weeks, or months, and since an ophthalmia, if at all serious, may cause irreparable mischief in a few days, I did not think myself justified in omitting the ordinary treatment, in order to ascertain what might be the effects of the oil of cod employed by itself. Hence I cannot say what share the oil had in the advantageous results obtained by this mixed treatment. But it is important to know that under the influence of the external treatment, the constitution of the patients generally improved. This result is of the greatest consequence; for the permanence of a cure in scrofulous subjects depends most particularly on the general state of the patients. Special methods of treatment, directed against the local disease, effect only a temporary cure *.

Phthisis Pulmonalis.—Kolkmann and H. Richter assert that they have treated phthisis with advantage, in certain scrofulous subjects, with the oil of cod. I gave it to two patients labouring under phthisis, which was evidently of a scrofulous origin; but I did not remark that it had the slightest favourable influence on the progress of the disease, which terminated in death in both instances. One of the patients was suffering, at the same time, under a white swelling in the elbow-joint; this improved during the treatment, while the disease of the lungs continued to make progress. These failures ought not, however, to make us entirely reject the oil of cod in the treatment of scrofulous phthisis; for, if administered at the beginning of the disease, it might possibly be attended with a success which does not follow its use at a more advanced stage.

General effects of the oil.—We have now to inquire what is the action of oil of cod on the system. Dr. Schmidt, of Stettin, says it is laxative. According to Reister, the oil sometimes increases the urinary and cutaneous secretions, and, under some circumstances, opens the bowels. It is probable that these effects depend, in part, on the dose of the medicine, and, in part, on the idiosynerasy of the patient. I have not observed any of these effects in the patients to whom I gave the oil in the dose of from two to four spoonfuls a day. In one case, a slight diarrhœa came on after the administration of the remedy; the treatment was suspended, and then resumed in a few days; but the diarrhœa did not return. In some nervous persons the disagreeable taste of the fish-oil excited nausea during the first few days; but this went off when habit had surmounted their repugnance. Digestion commonly improves in the patients who take it; indeed, feeble and cachectic persons acquire a strength and plumpness which often form a strong contrast with the debility and leanness which previously characterized them. But I repeat that I never found the oil, in the doses that I have mentioned, exert any appreciable influence upon the urine or perspiration, or produce any disturbance in the economy.

Nevertheless, the therapeutic effects of this fish oil are indisputable: what is their nature? It is probable that its healing power depends primarily on its restoring the function of nutrition when it is in a disordered state; so that its influence upon diseases of the bones and joints may be considered as secondary or consecutive. The therapeutic properties of this oil have been attributed, by some physicians, to a small quantity of iodine which M. Hopper has discovered in it. This will not appear very probable if we recollect that the preparations of iodine taken internally for a long time, and in large doses, had hardly any influence on scrofula of the bones in cases 2 and 5. Let us remark, too, that the swelling of the thyroid gland, and of the lymphatic glands of the neck, which soon yielded to the preparations of iodine, resisted the continued use of the oil in cases 3, 7, and 8. Thus the properties of these two remedies are far from being identical; and, to all appearance, they do not depend on any common principle.

However this may be, the beneficial effect of the oil, on some forms of scrofula, is indisputable; but it is slow, and is often not felt till the lapse of five or six weeks. The diseases of the bones and joints commonly require, for their complete cure, a treatment lasting five or six months; and sometimes several years. Hence it would be a great error to give up the treatment as useless, because no appreciable result was produced during the first few weeks. This would be depriving ourselves, by an unseasonable impatience, of the sole resource sometimes left us by which to triumph over a disease that but too often resists every toher known remedy.

We may reduce what we have said to the following propositions:—

1. The oil of cod has a favourable influence on the general state of lymphatic patients who make use of it.

2. When properly administered, it has the property of curing scrofula of the bones, marasmus, and chronic arthritis of a scrofulous or rheumatic form.

* Perhaps it should be *sous l'influence du traitement mixte* instead of *externe*; for the author probably means that while the affection of the eyes was cured either by the ordinary topical treatment, or by the oil taken internally, the latter acted as an alterative; and by its beneficial impress on the constitution, gave permanence to a cure which would otherwise have been but temporary.—*Translator.*

3. Caries, accompanied by a sore and swelling of the soft parts, requires the general treatment with cod oil to be seconded by local applications. Compression and iodureted alcoholic fomentations may be empoyed with success under such circumstances.

4. The oil of cod is of no avail against gouty arthritis, or swellings of any lymphatic glands but those of the abdominal cavity. Its action seems doubtful, or null, in scrofulous phthisis, when at all advanced.

5. The oil of cod must be administered with perseverance, and for several months, to produce an advantageous result.—*Abridged from the Gazette Médicale*, Nov. 9, 1839.

[The *huile de morue* so highly extolled by Dr. Taufflied is the oil of the liver of the cod—*oleum jecoris aselli*. It is difficult to procure in this country.—*Translator*.]

ON INFANTINE RESUSCITATION.

By Sir James Eyre, M.D.

To the Editor of the Medical Gazette.

Sir,

Should the following case appear to you to be worthy of a place in your valuable periodical, I shall feel obliged by its insertion :—

I was summoned at three o'clock, P.M. on the 11th instant, to take charge of a lady in her first confinement, whose calculation had fixed a month later for the accouchement : in consequence of some unusual exertion, the liquor amnii had begun to pass off two hours previous to my arrival. There was but little pain, and I left. By six, however, regular expulsive efforts commenced, and continued steadily and powerfully till half past ten, P.M., when a male infant, of apparently eight months, was born : the pulsation of the funis was very feeble, and the movement of the heart scarcely distinguishable. The skin was pale, the limbs flaccid, and the child evidently in a state of asphyxia. On removing it from the mother, I immediately proceeded to inflate the lungs, immersing the body, at the same time, in warm water. Although no sign of animation encouraged me, the palpitation being no longer perceptible, I, nevertheless, steadily and perseveringly continued the process of inflation more than half an hour, when, to my unspeakable satisfaction, and just as I had begun to despair of success, the child uttered a feeble moan, the heart fluttered slightly under my hand, and gradually, but surely, (for my little patient is now living and healthy,) respiration and circulation were duly perfected. I am strongly impelled to draw the particular attention of my younger brethren (for whom these remarks are intended,) to this subject, because, notwithstanding the directions given by lecturers on midwifery, I feel persuaded, from long experience, that it has not yet received the consideration which its manifest importance demands. Before I conclude, I wish to add, that I uniformly inflate with my own breath ; and that, in this matter, I perfectly agree with Dr. Cape, in a sensible letter of his which appeared in the Medical Gazette of October 7th, 1837, and to which I refer my readers : he there alludes to two cases of resuscitation which occurred in the early experience of my friend Mr. Terry, of Northampton, so long ago as April, 1818 *. In one of these instances Mr. T. persevered two hours and a half ; in the other, one hour and a half. My case occupied a space between half an hour and three quarters. Both Mr. Terry's children were revived, although the first only lived nine hours.—I have the honour to be, sir,

Your obedient servant,

James Eyre,

Senior Physician Accoucheur to the St. George's and St. James's Dispensary.

Lower Brook-street, Feb. 24th, 1840.

CREOSOTE IN GONORRHŒA.

To the Editor of the Medical Gazette.

Sir,

M. Reichenbach has recorded several cases of disease of cellular and mucous tissues, in which the efficacy of creosote is fully exemplified. In scrofulous ulceration of the throat and limbs, and extensive apththous affections of the mouth, it has been found highly beneficial ; and I can state, from my own experience, that its employment in certain cutaneous diseases is followed by decided and rapid amelioration. M. Reichenbach has employed creosote in chancres and other syphilitic ulcers,

* See Edinburgh Medical and Surgical Journal for that month.

and inclines to the belief that its action upon the wounds caused them to heal, (which they did with wonderful rapidity), not by producing healthy suppuration, but by actual "desiccation." There is something exceedingly vague and unsatisfactory in the expression, which, if correct, I imagine would imply the destruction of the pyogenic or specific pus-secreting membrane by the caustic properties of the remedy, and the subsequent cicatrization of the wounds by vigorous granulation, independently of a purulent secretion. Künckel, Lesseré, and other continental physicians, have also employed this remedy with success in venereal sores; from their accounts, however, it does not appear to have exerted any peculiar influence in destroying or modifying the syphilitic virus.

Taking into consideration the physiological action of creosote, I was lately induced to give it a trial in a case of gonorrhœa. The subject was an unfortunate female who had contracted the disease about a fortnight previously to her applying for advice. It had then passed into an advanced period of the second stage; the vaginal profluvium was copious and thick; and the ardor urinæ scarcely perceptible. The bowels being confined, were regulated by a common aperient pill, containing calomel, and a creosote injection ordered to be used three or four times daily. These means alone were sufficient to arrest the discharge in the course of two or three days, although I have reason to believe that the woman yielded to her usual licentious habits of life during their administration.

Creosote, partaking as it does of the nature of an oil, is immiscible with water, and but sparingly soluble; consequently the aqueous solution is not sufficiently powerful as a remedy in the majority of cases, although M. Reichenbach states that, in the cure of certain ulcerations and wounds, it was found to be alone efficient. If it were so, the magical effects ascribed to this remedy by its discoverer would go far to confirm the eulogia of "tar water" by the episcopal immaterialist of Cloyne.

The London Pharmacopœia has confined its attention to a single preparation, the unguentum creosoti, and does not appear to have contemplated the efficiency of its internal exhibition; and, indeed, in many instances in which it has been administered uncombined, it appeared to aggravate the original affection for the cure of which it was prescribed. I have found the following formula exceedingly serviceable, both for internal exhibition, and injection; the combination with the alkali renders the creosote completely soluble in the vehicle; it sits lightly on the stomach, without irritating, and its efficacy is not impaired. The dose of the creosote must, of course, be regulated according to the individual exigencies of the case:—

Injectio creosoti.—℞ Creosoti, Liq. Potassæ, aa. ʒi.; Sacch. alb. ʒij.; tere simul in mortario, Mist. Camphoræ ʒvj. tum adjice paulatim.

In gonorrhœa of the male, I should recommend, when the acute stage has subsided, that a very weak injection should be first used; perhaps the mere aqueous solution of 10 minims of creosote in ʒvj. of water, the strength being gradually augmented, if required, to the proportions above given. In all cases, if an unpleasant feeling of warmth be produced, or any thing bordering upon irritation, the quantity of creosote should be diminished.

I think a valuable remedy is here indicated, also, in obstinate cases of gleet.—I am, sir,

Your most obedient servant,
R. H. Allnatt, M.D.

Wallingford, Feb. 24th, 1840.

ON INFLATION OF THE LUNGS IN THE TREATMENT OF ASPHYXIA.

To the Editor of the Medical Gazette.

Sir,

The inflation of the lungs with pure oxygen, or even protoxide of nitrogen, has often been proposed in the treatment of persons found drowned, but from many alleged causes has as constantly been abandoned. The following experiments, carefully performed, with a view to determine the exact nature and proportion of the gases contained in the asphyxiated lung, appear to me so closely connected with the successful treatment of asphyxia in general, that I feel disposed, through the medium of your valuable periodical, strongly to urge the more frequent and persevering use of the above stimulating gases,

especially in those excellent establishments instituted solely for the recovery of drowned persons. Before detailing the experiments, I may premise, that the duration of life in warm-blooded animals is influenced — 1st, by their power of developing animal heat; 2d, by the external temperature to which they are exposed; 3d, by the celerity in which respiration is obstructed; 4th, by the extent to which the air is prevented entering the lungs; 5th, and lastly, by the peculiar irritability and idiosynerasy of the individual.

Exp. 1.—Having asphyxiated a dog by strangulation, as soon as life was extinct, while he was yet suspended, the trachea was laid bare, and carefully tied, so as to exclude the possibility of atmospheric air entering the lungs. The whole body was then plunged under water, and the trachea being divided near the lungs (having first raised the anterior portions of the ribs and sternum), the lungs were compressed, and the contained air collected in a jar over water. This was tested with the binoxide of nitrogen, and found to contain oxygen, but in exceedingly minute quantity, the ruddy fumes being scarcely perceptible.

Exp. 2.—A second dog was asphyxiated by submersion, and the trachea tied under water. In this instance no ruddy fumes were perceptible.

Exp. 3.—In order to ascertain the exact quantity of oxygen contained in the air so collected, several animals were secured and asphyxiated by strangulation. The air contained in the lungs was collected, as in the former experiments, and yielded very slight ruddy fumes on the admission of the binoxide of nitrogen. The remainder of the air was carefully analyzed, with the following result. Having deprived a portion of this air of its carbonic acid, it was thoroughly dried over mercury, and then submitted, in contact with hydrogen, to the action of spongy platinum, when it was found that 100 measures of this air contained only 1·75 per cent. oxygen; while air expired from the lungs was found to contain, after the removal of the carbonic acid, 13 per cent.

Such being the result of the above experiments, it appears rational that, in addition to the means used in general for the resuscitation of drowned persons, the constant and repeated inflation of the lungs with pure oxygen, or protoxide of nitrogen, in order more quickly to decarbonize the already stagnated venous blood, must occasionally be crowned with success, even when inflation with atmospheric air has been tried in vain.

Immediately on the return of animation, the above stimulating gases must, of course, be laid aside.

Should the above hints not prove foreign to the pages of your widely-circulated Gazette, you will oblige me by their insertion.—I am, sir,

Your obedient servant,
C. M. Durrant, M.D.

Hazleden, near Cranbrook,
Feb. 21, 1840.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'Alembert.

On the Anatomy of the Breast By Sir Astley Paston Cooper, Bart. F.R.S. D.C.L. G.C.H. Serjeant-Surgeon to the Queen, Consulting Surgeon of Guy's Hospital, Member of the National Institute of France, &c. &c.

We have before us another magnificent contribution to anatomical and surgical science, by Sir Astley Cooper: it is dedicated to the members of the medical profession; and the author states in his address, that if by this work he adds any thing to their knowledge of the anatomy of the breast, he will have received the utmost and only reward he desires from its publication.

It consists of a splendid volume of plates, with a quarto volume of text. The work is unavoidably expensive, and will necessarily fall into the hands of but comparatively few of our readers; we therefore propose to lay before them a succession of close analyses or extracts, so as to bring under their notice the principal facts and doctrines which these volumes contain.

We have general observations on the mammæ; a description of the breast of the human female; and, thirdly, an account of the same part in the male subject.

"The breasts are slung upon the chest, supported by the fibrous tissue, and they are projected at the nipple *forwards* and *outwards*. I have, in my work on the Testis, pointed out the

errors of those who paint or chisel from imagination, and not from observation of nature, in placing those bodies of equal height, although the left is much lower than the other; and the same remark may apply to the breasts; modellers, sculptors, and painters, sometimes represent the nipples as being pointed forwards, and place them as their imagination leads them to conceive them to be, and not as they really are. It is modern artists who fall into this error, for the ancients modelled from the living subject, and gave accurate representations of nature.

This natural obliquity of the mamilla, or nipple, forwards and outwards, with a slight turn of the nipple upwards, is one of the most beautiful provisions in nature, both for the mother and the child. To the mother, because the child rests upon her arm and lap in the most convenient position for sucking, for if the nipple and breast had projected directly forwards, the child must have been supported before her by the mother's hands in a most inconvenient and fatiguing position, instead of its reclining upon her side and arm. But it is wisely provided by nature that when the child reposes upon its mother's arm, it has its mouth directly applied to the nipple, which is turned outwards to receive it; whilst the lower part of the breast forms a cushion upon which the cheek of the infant tranquilly reposes. Thus it is we have always to admire the simplicity, the beauty, and the utility, of those deviations of form in the construction of the body which the imagination of man would lead him, à priori, to believe most symmetrical, natural, and convenient.

It is proper, however, to observe that frequent lactation, by relaxing the breast, changes the position of the nipple from without, inwards, as the axillary part of the breast descends; but still the child is able to suck in its usual position, because the relaxation of the bosom permits the breast still to be drawn outwards.

It was the opinion of Buffon, that, in the natural position of the breasts, they formed an equilateral triangle with the upper part of the sternum; but this does not appear to be correct. He says, "Au reste pour que les mamelles des femmes soient bien placées, il faut qu'il y ait autant d'espace de l'un des mamelons à l'autre qu'il y en à depuis le mamelon jusqu'au milieu de la fossette des clavicules, en sorte que ces trois points fassent un triangle équilatéral."—*Histoire Naturelle.*

The measurement of the Venus de Medicis is, from one nipple to the other, $7\frac{5}{8}$ inches; from the pit between the clavicles to each nipple is $6\frac{1}{2}$ inches; so that the base of the triangle is longer than its sides, and the nipples are more distant from each other than from the neck.

The margins of the breast do not form a regular disk, but the secreting structure often projects into the surrounding fibrous and adipose tissue, so as to produce radii from the nipple of very unequal lengths, and a circular sweep of the knife cuts off many of its projections, spoils the breast for dissection, and in surgical operations leaves much of the disease unremoved.

The breasts are generally two in number; and this number is not given, as has been supposed, to support twins, but as a provision against disease or accident, by which one of them might be rendered useless, or be entirely destroyed.

One breast is fully equal to the nourishment of the child of a healthy woman, as is often proved by inflammatory attacks destroying the secretory power of one breast, yet the mother is still able to nourish the child with the other.

Twins are rare, but the existence of two breasts is almost universal; I say almost, because exceptions do occasionally occur, of several being found; and not only in the pectoral and axillary region, but some authors relate that in other parts of the body they have been occasionally seen."

"The breasts vary greatly in thickness at different parts. The axillary margin is very dense and compact, and the same may be observed of the abdominal margin, but the sternal and clavicular portions are much thinner than the others, and, consequently, project less.

In this way the lower part of the breast forms the cushion, upon which the cheek of the child reposes as it sucks its mother's bosom; and as to the causes by which this greater thickness and projection are produced, I shall particularly point them out in speaking of the gland, but I may here observe, that upon this structure depends the projection of the nipple, the ready access

which the child has to it, and thus two important objects are accomplished.

The sensation imparted to the hand in feeling the breast, at different periods of life, very considerably varies. At the age of puberty, and for many years afterwards, the breast is dense, compact, smooth, and equal; but so soon as they become employed in lactation, they begin to separate into small bodies with identations around them, and this arises from the stretch and relaxation of the uniting cellular and fibrous membrane. Even in single or childless women, the breasts, towards the cessation of the sexual secretion, become often exceedingly lobulated. In age the lobulated feeling ceases from the absorption of the glandular structure. The return of the menstrual secretion also makes a great difference in the feel of the breasts, as they become full, tense, and painful, and an ecchymosis sometimes appears. It is of importance to know these changes, as they lead to a clearer diagnosis in disease.

Pressure or injury on the breast produces a sensation of nausea, and if carried far it excites vomiting, which almost constantly occurs in important operations upon the breast, especially if food has been taken but a short time before."

The next section relates to the structure of the constituent parts of the breasts, and first of the

NIPPLE OR MAMELLA.

"*The Cuticle.*—This texture covers the nipple, and projects between its folds and into its depressions. It sends processes into the lactiferous tubes, which processes may be drawn out after continued maceration.

It forms folds and a net-work upon its inner surface of very irregular and unequal meshes.

It adheres to the cutis, by passing between its projections and by entering into its pores; and as its processes into the lactiferous tubes are the largest, it adheres more firmly at the apex of the nipple than elsewhere on the breast.

In lactating women, so soon as the cuticle is removed, the orifices of the lactiferous tubes become very apparent.

In women of light complexions, and more especially those with red hair, the cuticle is extremely thin, and is frequently subject to abrasion from the application of the child's lips in sucking; and the process of nursing is, from this cause, rendered exceedingly, and I might say, almost intolerably painful, and, therefore, astringent applications are required, or often a shield is obliged to be applied to defend the part and to favour the reproduction of the cuticle.

In similar temperaments, incrustations often form on the nipples of girls, covering their clefts and points, and requiring attention to prevent ulceration, which the unguentum hydrargyri nitratis, or unguentum zinci, are most fitted to oppose. In age, an incrustation of a much firmer kind fills the cleft, and covers the point of the mamilla.

Of the Rete Mucosum of the Nipple.—Beneath the cuticle is seated the colouring matter of the skin.

It adheres firmly to the posterior surface of the cuticle, and is placed upon the anterior surface of the cutis.

It is not so abundant on the nipple as upon the areola, on which I shall chiefly describe it.

It not only covers the surface of the nipple, but enters, with the cuticle, into its lactiferous tubes. This may be better seen in other animals than in the human female, as the ducts are small; but in the larger quadrupeds, when the skin is dark, the cuticle and rete mucosum may be seen terminating within the lactiferous tubes, at a few lines from the extremities, forming a fringed edge.

The nipple, deprived of its rete mucosum and cuticle, appears white as the skin of other parts of the body.

Some follicles exist in the nipple, and admit the cuticle and rete mucosum.

Of the Cutis of the Nipple.—The cutis forms a considerable portion of the nipple, and it is divided into two surfaces, when the breast is in a state of lactation.

The first forms the disk or circumference of the nipple, and the second its broad, flat, truncated apex, in which the terminations of the milk tubes may be seen in numerous orifices.

The disk is composed of a great number of papillæ, which produce a vascular and sentient surface, and which form its erectile and highly sensitive tissue.

The direction of these papillæ is from the base towards the apex of the nipple, so that they are pushed back as the mamilla enters the mouth of the child, and thus greater excitement is produced.

They lap over the truncated extremity

of the nipple, forming a foliage upon its apex.

They form, in their arrangement upon the nipple, broken portions of circles; but when the nipple is elongated and dried, they appear to be spiral.

They form flaps, which are at their edges divided into numerous projections, with serrated depressions between them.

They are directed forwards towards the apex of the nipple, and the papillæ of the child's lips passing from within outwards, meet them in sucking, are received between them, intermix with them, and produce considerable adhesions and sensation.

They are very numerous and large for the size of the part, and rather spongy at their extremities.

They are very vascular bodies, and I have given a figure of them injected. The minute arteries which pass from the base towards the apex of the nipple, send numerous branches to the papillæ cutis, which divide into little bushes of vessels in each papilla, and terminate in veins.

The veins, also, are very numerous, and they will be seen injected, and forming bushes similar to the extremities of the arteries.

The application of the child's lips, the drawing of the nipple in the motion of the child's head, and the suction produced by its mouth, produce so much excitement as to occasion erection of the nipple.

This effect has been supposed to arise from the passage of the blood into an elastic, cellular structure, like the corpora cavernosa penis, but there is no such formation in the nipple. It is a state arising simply from the determination of blood into the little bushes or assemblage of capillary arteries into the nipple and papillæ. The blood is propelled forwards to the papillæ by the action of the heart and arteries, so that by this vis a tergo the capillary arteries become extremely distended, and erection is produced; it more slowly escapes through the little branches of communication with the veins, and which are distant from and less under the influence of the vis a tergo from the heart, which is the principal source of the circulation; thus a congestion of arterial blood is produced in the capillary arteries. But when the excitement subsides, the blood is no longer directed with the same impetuosity upon the papillæ, and the veins will then remove the congestion in the extreme branches of the arteries, as the vis a tergo has in a considerable degree subsided.

This erection of the nipple may be produced, not only by mechanical causes, as in suckling, but also by mental excitement, as by the influence of the passions.

Moral causes affect not only the nipple but the mammary gland, and thus occasion a greater determination of blood to it, and a more considerable secretion from its glandules, by the nervous communication between its different parts.

Thus, then, is formed the papillous surface or disk of the nipple, and as to its apex, and what is, when the breast is in a state of lactation, its truncated surface, it is a cleft generally before the breast secretes; but during lactation the papillæ are everted, and the broad surface of the apex is exposed, and then the orifices of the lactiferous tubes appear, which terminate in a kind of cribriform net-work, between the meshes of which the milk escapes. This net-work being very little elastic, yields but slightly to the pressure of the milk, so that the orifices of the ducts continue of very diminutive size, not only in woman, but in other animals; thus it is that the escape of the milk is prevented excepting under excessive distention, and in the process of suckling.

There is no traverse wrinkling of the lactiferous tube internally, as Haller states, to prevent the escape of the milk, but, as any one may at once see by cutting open the tubes near their terminations, they are wrinkled longitudinally, to allow of a greater dilatation of the tube behind the contracted orifice.

On the inner side of the cutis, which forms the nipple, it is lined by a fibrous tissue, which passing from the surface of the breast to the skin, covers and encircles the lactiferous tubes. This structure forms the strong connecting medium between the nipple and the gland of the breast; it prevents great elongations and relaxation of the nipple, and it is the chief defence from those injuries and violences which might tear off the mamilla from the gland, separate the ducts, and destroy the function and utility of the organ. This circle of fascia around the ducts is derived from the general fibrous tissue of the breast and thorax.

As some degree of elongation and

change of place is necessary to the performance of the functions of the nipple, it also contains a cellular tissue, which is elastic, and admits of change in the form and situation of this projection. In this tissue the arteries and veins are supported, as well as the absorbents and the nerves. It is in the nipple more of the reticular than of the adipose kind, because much fat placed in the substance of the nipple itself would be attended with great inconvenience, and might, indeed, interfere with the function of the part, and defeat the object of nature.

Within this reticular tissue are placed the lactiferous tubes as they proceed to their termination upon the truncated surface of the nipple, which tissue permits them to be elongated and drawn into capillary tubes at the time of sucking. Thus, then, the nipple is formed of the common integuments with numerous papillæ upon its disk, of an apex with cribriform openings for the termination of the lactiferous tubes, within the integuments, of a fibrous tissue, and more internally still, of a reticular tissue conveying the blood-vessels, absorbents, and nerves; lastly, of the lactiferous tubes as they proceed to their termination."

OF THE AREOLA.

The areola is composed of the common integuments, somewhat modified. Its *cuticle* is thin, like that of the nipple. It has a firm adhesion to the areola, because it passes between the papillæ, and into the wrinkles and folds of the cutis; and it therefore separates by putrefaction less readily than that of the surrounding skin, but more easily than that of the nipple. It is thin, that it may not interfere with the sensibility of the cutis behind it. Like the cuticle of the nipple, it becomes, in women of light complexion, very frequently abraded, from the irritation of the child's lips, and a change in the mother's own secretions, and those in the mouth of the child. The anterior surface of the cuticle of the areola takes on the forms of the parts behind it; but its posterior surface is reticulated in larger and smaller meshes, which are received between the folds of the true skin. The *rete mucosum* of the areola might have its existence doubted in infancy, on account of its want of colour; but as the age advances, the areola darkens, and the colouring matter becomes very apparent even through the cuticle. Its peculiar arrangement is readily distinguished, by raising the cuticle of the areola by maceration, spreading it in alcohol, which fixes it, and then by viewing it, by means of a slight magnifying power, a dark reticular texture may be perceived, placed upon the edges of the folds of the cuticle, and upon its inner surface; and to this deposit upon the reticulated surface of the cuticle, its own reticular appearance is probably owing. If the cuticle, with its lining of rete mucosum, be separated in water, the rete mucosum may be washed off in flakes of different sizes. If the areola be steeped in alcohol, and the cuticle be then raised, the rete mucosum will be chiefly left upon the cutis.

The deposit of this substance does not appear to be reticulated, but that character it derives from the form of the inner side of the cuticle, as above mentioned; but it seems to be deposited in small flakes, the aggregation of which produces a sheet of colouring matter. The quantity of rete mucosum secreted must depend greatly upon the quantity of blood determined to the part. As soon as the influence of the uterus and ovaria is felt by the breasts, and they swell from more blood being determined to them, the rete mucosum is more largely secreted, and the colour of the areola and nipple becomes darker. When the pregnant state of the uterus enlarges the breast, by increasing the flow of blood to it, the rete mucosum increases in quantity; but still more in lactation, when the nipple and areola are greatly excited, the depth of colour is the greatest, and the best opportunity is afforded of observing the colouring matter. As the circulation declines in age, the rete mucosum diminishes in the areola.

The menstrual secretion has, from the change thus produced upon the breast, some influence upon the colour of the nipple and areola.

The effect of a hot climate, by determining large quantities of blood to the skin, produces also a larger quantity of rete mucosum; and the change of complexion which climate produces, depends upon the greater or less circulation in the integuments, and accounts for the lightness of complexion in the northern parts of Europe, and its darkness in those who visit the south of Europe, or the East and West Indies. The tanning which

exposure to the sun in the summer of our climate occasions, is dependent upon a similar cause.

With respect to the secretion of the rete mucosum, it is probably thrown out by the highly vascular surface of the cutis, not separated in the common state of the skin, but very visible under great determinations of blood to the cutis."

In our next number we shall give some extracts from the section which treats of the internal parts of the breast.

MEDICAL GAZETTE.

Friday, February 28, 1840.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

MANAGEMENT OF THE POOR IN SCOTLAND.

It is clear that the doctrine of making the poor happy by denying them relief in their misery, is carried pretty far by the partisans of the Scotch system *; yet as it would have been impossible to calculate the heights to which self-denying benevolence has sometimes ascended, so it is most difficult to measure the depths to which the cold policy of the economists may sink. There are speculative depths far below the actual level of the Scotch system: a mixture of Malthus and Chalmers is capable of sinking the measure of charity far below the freezing point. St. Martin, says the legend, gave half his cloak to a beggar perishing with cold; but there are some, it seems, who, with a store of cloaks rotting in their chests, would refuse to supply the needy, lest they should encourage improvidence! Who, then, can plumb the lowest abyss of uncharitableness? One man is for throwing the English Poor-laws overboard; another thinks the Scottish assessment too liberal; hospitals are a sad "encouragement to improvidence," says a third; why not abolish all charity, public and private? asks a fourth; not jocosely, reader, nor in the manner of Swift, but in good, dreary, economic earnest. Thus Dr. Alison tells us, not only that it is a general belief among the most influential persons who preside over the public charities in Scotland, that all legal provision for the poor is a great evil, but that many think that "all private charity, intended merely for the relief of indigence, independently of disease, is of very doubtful public advantage; very easily carried to excess, probably carried to excess in Edinburgh itself," &c. &c. (p. 37.)

Hence we cannot be surprised, he says, "that many respectable citizens should never appear among the subscribers to any public charity, at the same time that they steadily withstand all solicitations for private alms, and thus reduce the practice of this Christian duty to the utmost possible simplicity." (p. 40.)

We presume that, in this passage, "respectable" is to be understood in the sense which was immortalized on Thurtell's trial, where a witness, when asked what he meant by saying that Mr. Weare was respectable, answered, "he keeps a gig;" for respectable in the above passage can scarcely mean "worthy of respect."

Nor is Malthus a whit behind the Edinburgh people; for after inveighing against Poor-laws, as giving "direct, constant, and systematic encouragement to marriage, by removing from each individual the heavy responsibility which he would incur by the laws of Nature

* "During the inclement weather of spring, 1838, I saw three young women, with natural children on the breast, who were out of work, in a miserable state of destitution, and who were refused admission into the workhouses, and were very scantily relieved by the other charities here. After some weeks of severe suffering, the children all died, certainly of the effects of cold and imperfect nourishment. If any one supposes that the effect of this sacrifice of innocent life was to improve the morals of these women, or their associates, I can only say that he knows nothing of the effect of real destitution on human character and conduct."—*Alison*, p. 140-1, note.

for bringing beings into the world which he could not support," he adds, "*Our private benevolence has the same direction as the Poor-laws, and almost invariably tends to encourage marriage.*" After quoting these passages, Dr. Alison asks what there is in medical charities to entitle them to the exclusive patronage of the economists? Why, nothing: if the Scottish women who work in the fields for eightpence a day are to lay by a provision for old age out of their wages, they may as well, while they are about it, subscribe to a sick club likewise; the same *reasoner* who expects the one, will hope for the other.

Atque idem jungat vulpes, et mulgeat hircos!

Such millenarians would begin, like the Sheffield physician, by merely rejecting a large majority of applicants for hospital relief, under the pretence that their distress was not sufficiently acute, but would look forward to a still completer heaven upon earth, when every hospital should be shut—not from want of sickness, but from indisposition to relieve it.

These absurd and shocking conclusions may show the young student, when fascinated by the charm of specious reasoning, and the expectation of carrying on social life upon purely mathematical principles, how delusive science is, when unmingled with kindly feelings. To speculate on the relations of human life, and leave out philanthropy—to imagine that men are like Vulcan's tripods, which could move and work, but had no feeling—is to falsify the whole calculation. Your mere economist, subtle on paper, and irresistible in a debating club, but without hope, love, or sympathy, makes a pretty mess of it when he attempts to legislate, or, worse still, to interpret the letter of the law by his mean spirit. Short-sighted pedant! It is his to widen the breach between rich and poor, to add ever fresh fuel to the flame of sedition, and, when the day of bitter hostility arrives, it is he who has enabled the wretched to exclaim, "cruelty was once accidental, but you made it systematic!"

These crafty reasonings of the sophisters and economists, by which they attempt to prove that the less we do for the poor, the more in fact we do for them, remind us of a notable artifice in algebra, by which it may be shown that 1 is equal to 2. Yet, however ingenious the algebraic trick, no one is practically deceived by it; but assuredly, if thirty shillings per annum in the shape of rates could be saved by this analytical quirk, it would be lustily defended, and sarcasms would not be wanting against those who clung to the old arithmetical belief.

It would be a curious topic of inquiry, whether the economists always act up to, or rather, down to, their principles. Most men have a standard of benevolence so lofty, that it is exceedingly difficult to attain its utmost heights; while your genuine Malthusian has one so low that it is difficult to grovel on a level with it. The "respectable citizens" mentioned by Dr. Alison would seem to have attained the icy depths of economic perfection; — but do they never relent, never give away a trifle in an unguarded moment? These things should be attended to by their biographers; and as the wits of Queen Anne recorded the inflexible constancy and inimitable uniformity of life with which Colonel Chartres persisted in his career, the panegyrist of the Edinburgh citizen should extol the more than Roman firmness with which he steadily withstood all solicitations for private alms, while, with a stoic abstinence from the pleasure of benevolence, he would "never appear among the subscribers to any public charity."

We do not know whether we ever met with such a hero, save in fiction; but fiction is often an elegant anticipation

of truth. One of Goldsmith's delightful characters, the "man in black," having been ruined by excess of good-humour determines to rise in the world by an opposite behaviour, and accordingly professes the most rigid Malthusianism (if we may be allowed the anachronism):—"For a free, open, undesigning deportment, I put on that of closeness, prudence, and economy. One of the most heroic actions I ever performed, and for which I shall praise myself as long as I live, was the refusing half-a-crown to an old acquaintance at the time when he wanted it, and I had it to spare; for this alone I deserved to be decreed an oration*."

With the man in black, however, unkindness is a mere pretence, and selfishness a fragile mask to cover his inextinguishable charity; so that he gives us a foretaste of non-encouragement of improvidence, in sentiment, but not in practice.

Dr. Alison remarks that some of the advocates of the New Poor Law held out the prospect that it would make the poor so prudent, that they would learn to adapt their number to the demand for their services, and ultimately require no assistance except in sickness; but we think that he deals too gently with this flagitious nonsense, when he calls these prospects "quite Utopian and visionary;" though he is perfectly right when he adds that "any attempt to reduce them to practice, while human nature remains as it is, will be found to lead only to misery and disorder."

Now, Utopia is not Greek for a brothel; and as it is quite clear that the checks on marriage so stoutly bawled for by the more frantic economists would lead to a frightful demoralization, instead of calling their schemes Utopian, we would call them Gnidian or Lesbian—any thing rather than Utopian, or "belonging to the good place." If the reader, satiated with the insincere gabble of the economists about the preventive check, wishes to know to what the discouragement of marriage really leads, he will find some information in one of Basil Hall's amusing works. The Countess of Purgstall, a Scottish lady long settled in Styria, writes to him that no man is allowed to marry until he can prove he is able to maintain a wife and children; and this, with the law of celibacy of the clergy, and the caution required of the military—almost an act of celibacy—are checks on population which would make the hearts of Mr. Malthus and Miss Martineau burn within them for admiration. The result is the entire demoralizing of the people. At the last grand jubilee, in the next parish, seventy-two pairs of virgins adorned the procession, dressed in white, and covered with garlands of flowers. In eight months forty-four of them were in the family way. Madame Nature is not a political economist, and she does not let her laws be outraged with impunity*."

The practice, it must be owned, is not alluring; and Mr. Carlyle, in the instructive work we have already quoted several times, has not much mercy on the theory. The supposition of the preventive-check men is, that the working classes might and should put a stop to the too rapid increase of population; but how are they to act in concert, and agree to this multitudinous celibacy?

"Smart Sally in our alley proves all-too fascinating to brisk Tom in yours: can Tom be prevailed on to make pause, and calculate the demand for labour in the British empire first? Nay, if Tom did renounce his highest blessedness of life, and struggle and conquer like a Saint Francis of Assisi, what would it profit him or us? Seven

* Citizen of the World, Letter 26.

* Schloss Hainfeld; or, a Winter in Lower Styria, p. 12-13.

millions of the finest peasantry do not renounce, but proceed all the more briskly; and with blue-visaged Hibernians instead of fair Saxon Tomsons and Sallysons, the latter end of that country is worse than the beginning. O, wonderful Malthusian prophets! Milleniums are undoubtedly coming—must come one way or the other; but will it be, think you, by twenty millions of working people simultaneously striking work in that department; passing, in universal trades-union, a resolution not to beget any more till the labour-market become satisfactory* ?"

Then, as our readers know, there is another elysium provided for us by some thoughtful writers; not a preventive-check, but a positive-check paradise. The former Utopia was a bordello; this is a slaughter-house.

In an article entitled, "*Save us from our Friends*,"† we gave an account of Marcus, his notions on the possibility of limiting populousness; and we imagined his pamphlet to be a biting jest (after the fashion of Swift's "Modest Proposal,") on the New Poor Law people. Mr. Carlyle, we see, takes the author to be in earnest:—"We hoped he would turn out to have been in sport: ah, no! it is grim earnest with him—grim as very death. Marcus * * * does now, with much long-windedness, in a drawling, snuffling, circuitous, extremely dull, yet at bottom handfast and positive manner, recommend, that all children of working people, after the third, be disposed of 'by painless extinction.‡'"

But it fortunately happens that in this, as in every other point of their arguments, the economists can be refuted on their own ground; and, though they might sneer at an appeal to the feelings, they cannot deny the authority of statistics. Truth must be presented in every shape to make it acceptable to every disposition; and, as we have printing in relief for the blind, we must have the necessity of Poor Laws made so prominent that the driest economist shall understand it. It appears, then, by Malthus's confession, that the proportion of births in England is *very small* compared with other countries in similar circumstances. "Undoubtedly, the returns of the Population Act seem to warrant the assertion, that the Poor-rates do not much encourage marriage. Should this be true, some of the objections which have been urged in this Essay against the Poor Laws will be removed."*

Surely, the method of governing nations by tables and calculation, instead of good sense, feeling, and experience, is too much like the Laputan way of making clothes by geometrical theorems. Gulliver's clothes, made by Laputan rules, did not fit, for there had been a mistake in the calculation; and Malthus's invective against the Poor Laws falls to the ground, because there was an error in *his*.

Another fallacy, or corollary from the last one, is, that as the Poor Laws are a bounty on population, workmen will overflow from the countries where such laws are established, into those happier regions where they are unknown. Workmen, for instance, will throng from pauperized England into independent Ireland and Scotland! Only, they never do. There is some mistake in the calculation; the Laputan tailor must take his clothes back again.

Fallacy the third is, that poor-laws diminish the reward of labour; a certain portion of provisions which ought to be eaten by the industrious, falling to the share of the idle. Contradicted by universal experience: for in England, where relief has been given for centuries more liberally than in any other country, the condition of the working classes is, beyond all contro-

* Chartism, p. 109-10.
† Med. Gaz. Jan. 19, 1839.
‡ Chartism, p. 111.

* "On Population," sixth edit. App. p. 468.

versy, the best; and in those continental states where relief is distributed with a more generous hand, the labouring classes are better off than in those where want is relieved with reluctance. If we required a theory to explain so simple a fact, we should say that legal relief prevents the competition among the poor from reaching a starving point, and at the same time fixes a standard, below which the majority of employers will, for very shame's sake, not make their offers.

The last fallacy we shall mention, is, that poor-laws diminish private charity: an assertion so notoriously the reverse of the truth, that it is almost superfluous to answer it formally. Dr. Alison justly observes, that when the poor are left to voluntary charity, they sink into a state of abject destitution, and the sensibility of the rich is deadened by the constant spectacle. "This sight gradually becomes habitual to them; they comfort themselves with the reflection that many beggars are impostors, and too often 'indulge in unhallowed pleasantry in the sacred presence of misery.'" Whereas those who live in a country where the poor are really under legal protection, compassionate less acute degrees of suffering, and form a far higher standard of the comfort which the poor ought to enjoy. To this we may add, that the poor-laws in England do not dry up the fountains of private charity, for the best of all reasons—they spring from the same source; and the same humanity which passed the Poor-Law, and for ages gave it so liberal an interpretation, has privately relieved the wants of the indigent with a munificence not easily to be paralleled.

"I am not aware," says Mr. Highmore, quoted by Dr. Alison, "of an instance where any one, being desirous of declining his contribution, at the anniversaries of any of our charitable institutions of London or Westminster, adverted for one instant to the poor-rates, as a ground for withholding that contribution *." If a man did make such an excuse in this part of the world, the hearer would doubt whether he was in earnest, or merely studying the character of Gripe for a farce.

We would willingly go on, but we must have done, and conclude the article and the subject.

Mr. Owen, in his scheme for a new moral world, says that we must begin by convincing governments of its necessity. A hard task, we imagine. The economists, to bring their plans into operation, must begin by uprooting pity from the bosoms of the rich, and the reliance on their sympathy from the hearts of the poor;—a harder task still, we hope.

Once more we tender our thanks to Dr Alison; his book deserves the gratitude of every friend of mankind, and is the work of a physician who understands his vocation in its largest sense, and endeavours to wipe off every tear from every eye.

VACCINATION REPORT.

Presented to both Houses of Parliament by the National Vaccine Establishment.

To the Right Hon. the Marquis of Normanby, principal Secretary of State for the Home Department.

My Lord,—The experience of another year has confirmed our conviction of the efficiency of vaccination as the best security and protection against small-pox, and has afforded us, moreover, proofs of the propriety, in the present state of our knowledge, of preferring vaccine matter, the pruduce of the original virus furnished by Dr. Jenner, which has now passed happily through successive generations of subjects in the course of forty-three years, and which forms the principal source of our supply, to any which may have been taken

* A View of the Charitable Institutions in London, Preface, p. 18.

recently from the cow. We admit that it is sometimes stated to us by our correspondents that the supply which we had sent them has failed, but the same post has generally brought us intelligence that the material supplied from the very same source had succeeded elsewhere, and that it was found efficacious in Somersetshire when it was said to be inefficient in Wiltshire. We have concluded, therefore, either that it has been injured somehow in its transmission, or that the patients submitted to it were not in a fit condition to receive its influence, in consequence of some eruptive disease having preoccupied their constitution, or of some prevailing epidemic disorder having rendered them insusceptible of another and a new excitement for a time.

The number of patients dead of small-pox within the bills of mortality, if we can trust them, has been less this year than any one since vaccination has been practised; and we are justified, by a careful retrospect of several years, in stating that 4,000 lives, on an average, are saved every year, within the district of the bills only, by vaccination having superseded so largely the practice of inoculation.

We have vaccinated, at our several stations, 13,144 persons, and have sent out 165,395 charges of vaccine lymph since our last report to Parliament in 1838.

HENRY HALFORD,
President of the Royal College of Physicians, President of the Board.
ROBERT KEATE,
President of the Royal College of Surgeons.
THOMAS MAYO,
Senior Censor of the Royal College of Physicians.
CLEMENT HUE, M.D.,
January 28, 1840. Registrar.

CLINICAL LECTURE ON HERNIA,

Delivered at University College Hospital,

BY SAMUEL COOPER,
Senior Surgeon to the Hospital, &c.

GENTLEMEN,—It is a remark made by Sir Astley Cooper, that the disposition to femoral or crural hernia increases with the age of the individual, and, if the records of this hospital were examined, from the period when it was first opened until the present time, they would be found fully to confirm this statement. The youngest person in whom I have seen a femoral hernia is a young lady, now about 10, but, when was first consulted, she was not more than 7 or 8. She is still wearing a truss, in the hopes of a radical cure. Instances of femoral hernia in children, however, are very unusual. Within the last three weeks, two cases of strangulated femoral hernia, requiring the performance of operations, have been admitted; and the age of each of these patients supports Sir Astley Cooper's observation on the great frequency of the disease in the aged; one of them being 61, and the other 87.

CASE I. — *Strangulated Femoral Hernia operated upon in a Woman 87 Years old.*

This very old woman, aged 87 years, by name Mary Quaife, and a widow, was brought to the hospital on Tuesday, Oct. 22d, 1839. About sixteen years ago, as she was cleaning a door-plate, she attempted to get at a part of it rather beyond her easy reach, and, at the moment of making this exertion, she felt as if something had given way in her *right* groin, and a small tumor was perceived there, attended with acute pain. With some difficulty the hernia was reduced; and, ever since that period, she had worn a truss, notwithstanding which the hernia frequently descended, and produced considerable pain. On these occasions, the parts were sometimes reduced with facility; but, at other periods, not without trouble. Ever since the first appearance of the hernia she had been habitually costive.

On the afternoon of the 21st of October, the hernia descended when she was at the water-closet, and she was unable to return it. She was put to bed, and, in the night, was seized with vomiting and hiccough. The next morning, a surgeon tried the taxis without success. At three o'clock p.m. on the 22d, she was admitted into the hospital. At this time she had a painful sensation of constriction at the lower part of the chest; or, as I infer, what is usually compared to the feeling that would arise from a tight cord being put round the upper part of the abdomen. Every now and then she vomited up a darkish fluid, resembling coffee-grounds in colour; and there was hiccough and tenderness about the belly. The tumor was of a roundish or rather of an oval form, about as large as a pullet's egg; and the fundus of the sac passed upwards, over Poupart's ligament, which could be distinctly traced as it crossed over the neck of the tumor. As the taxis, with the assistance of the warm bath, proved again ineffectual, I held a consultation with Mr. Quain, and we recommended the operation at seven o'clock; but she did not give her consent till about an hour afterwards.

Operation.—A single incision, beginning just over that portion of Poupart's ligament which was nearest the crural ring, was made obliquely from above downwards, and outwards, through the integuments. The superficial fascia and the facia propria having been divided on a director, the hernial sac immediately presented itself, there being, in this case, no fat interposed between it and the fascia propria. In consequence also of the sac containing a large quantity of clear fluid, the arborescent distribution of its blood-vessels was at once beautifully seen in the semi-transparent light bluish membrane. Directly a small opening had been made in the sac, by pinching up a small fold of it with the forceps, and cutting it horizontally, close to the end of the instrument, a quantity of this fluid gushed out to the height of a foot or two. The sac was now laid open, with the aid of a director, so as to expose its contents, which consisted of a *knuckle of small intestine*, about three inches in length, and, in part, of a dark claret-colour; but the peritoneal covering of it retained its proper glistening appearance. The stricture, which, as usual, lay deep, was removed by dividing, with two or three repeated, but very limited, strokes of the knife, the neck of the sac upwards and inwards, together with the posterior edge of Poupart's ligament, where it is connected with Gimbernat's ligament. In this stage of the operation, the tip of the nail of the left fore-finger passed under the stricture, is often the best guide for the knife, because the finger keeps down the intestine away from the edge of the instrument better than a director. The thigh was then flexed and rotated inwards, and the bowel reduced. After this, the finger was introduced into the neck of the sac, in order to be sure that no part of the bowel remained unreduced. This important point having been ascertained, the wound was closed with a single suture, and a piece of lint, dipped in water, laid over the part. At ten o'clock p.m., as the patient complained of not being able to pass her urine, it was drawn off with a catheter. An enema, containing castor-oil, was administered, but it came away without the desired effect. In the course of the night, however, after she had taken a few ʒj. doses of sulphate of magnesia in mint water, she had three motions.

Oct. 23d.—Has had sleep, and the vomiting has ceased. Pulse 84. A slight tenderness over the abdomen. Mr. Quain, who visited her in the early part of the day, prescribed small doses of calomel, every two hours, and directed a mustard poultice to be applied to the abdomen. The tenderness of the belly having subsided by one o'clock, the calomel was discontinued. Pulse was now 100, and irregular, as, indeed, it had been before the operation.

In the evening, the pulse was 87, and still irregular.

℞ Calomel, gr. ij.; Morphiæ Hydrochlorat. gr. ss. ft. Pil. h.s. sumend.

24th.—Has passed a good night. Suture removed. Isinglass-plaster, a compress, and spica bandage applied. Wound partially united, but some redness around it. Urine drawn off.

Nov. 14th.—Some little suppuration, and a very small slough of a superficial kind, had taken place: the wound went on most favourably; and she now sits up, and may be considered as through all danger. For several days during the treatment, it was necessary to employ the catheter. She now enjoys her meals, and, with the exception of the disturbance of an old chronic cough, is very comfortable, and, I believe, brought into a state of safety.

Remarks.—1. In this case, the superficial fascia and fascia propria were rather thick, as generally remarked in femoral hernia of long standing.

2. The hernial sac itself, however, was much thinner than often noticed under similar circumstances.

3. No fat interposed between the fascia propria and the hernial sac.

4. A considerable quantity of clear serous fluid in the sac, which, with the thinnish state of the peritoneum, made the arborescent appearance of its blood-vessels very distinct. Now, as this arrangement of the blood-vessels is one criterion of its being the sac, and not intestine, you would desire always to be able to avail yourselves of it. But, in practice, this is not constantly possible; for, when no fluid is contained in the sac, and the bowel is of a very dark colour, and closely embraced by the sac, the vessels of the latter are so obscured as not to be distinguishable. Then you must notice the cellular uneven appearance of the exterior of the sac, and the impossibility of passing a probe easily between it and the other more external coverings of the hernia.

5. This case is an example of two circumstances also most common in femoral hernia: first, its occurrence on the right side; second, its containing a portion of intestine. The most usual contents of such a hernia are a piece of small intestine, especially the ilium without omentum, as seen in this instance; but sometimes omentum also protrudes together with the bowel. It very rarely happens that a femoral hernia includes only omentum.

6. This case should encourage you to operate, notwithstanding the patient's age

may be extremely advanced, provided the disease itself be not too far advanced, and the patient be not, as it were, moribund. This woman, according to her daughter's account, is in the 88th year of her age. Sir Astley Cooper informs me, that he has never operated on any person for a femoral hernia, who was nearly so old as our patient. I know of no example in which the operation was performed on so aged an individual.

7. The case exemplifies the advantage of always operating, if possible, before peritonitis has made progress; that is, before the belly has become painful on being touched, and the pulse very much accelerated and weak.

8. It illustrates another fact, which is, that in respect to less disposition to inflammation—and less irritability—some old subjects have the advantage over younger ones; but, if much inflammation should come on in the former, they are likely to sink under it, because they cannot bear so well the means required for the stoppage of it.

9. Hiccough, without gangrene, was another fact, exemplified in this patient, as it has been in many other cases of hernia at this hospital.

CASE II.—*Femoral Hernia—Operation.*

Mary Simmons, æt. 67; admitted November 9th, at half-past twelve, P.M. She had then been suffering from *pain* in the abdomen, and vomiting, for more than 24 hours. On the previous morning, she first noticed a swelling in the right groin. On her admission it was hard and tense, and of the size of an egg, with a little redness of the skin, and acute pain on pressure. It lay in the fold of the groin, with Poupart's ligament extended over it, and the tuberosity of the os pubis on the inner side of the upper part of the sac. Pulse 90, and weak. Some coldness of the hands and feet.

The taxis was tried first without the warm bath, and then the patient was put into one of 110°; and during the faintness and collapse thus brought on, the taxis was resorted to again, but without success.

The operation was performed by Mr. Quain at a quarter before two, P.M.

The integuments having been raised into an early transverse fold, one end of which was held by Mr. Quain himself and the other by me, it was divided, so as to make an incision from the middle of Poupart's ligament downwards and outwards, over the tumor, through the skin, superficial fascia, and fat, of which there was some quantity. The adipose and cellular tissue having been separated from the immediate coverings of the hernia, the fascia propria was brought into view. A small opening was made in it, and enlarged with the aid of a director. The sac, which was remarkably thin and transparent, and closely embraced a very dark portion of small intestine, was next opened in the usual way, by lifting up a little piece of it with the forceps, and cutting it horizontally, close to the forceps. Then, with the director and curved probe-pointed bistoury, this small opening was enlarged, and the sac laid open. A small quantity of dark-coloured fluid issued from the sac when it was opened. The intestine, though in some places almost black, retained its natural consistence and smooth shining appearance, and had no fetid, cadaverous smell. While one side of the sac was held aside with the forceps, a finger was introduced into the neck of the sac, and a close stricture felt, which was divided upwards and inwards with a few touches of Sir Astley Cooper's hernial knife. The bowel was then reduced, and the complete reduction having been ascertained—a duty never to be neglected—the wound was closed with a suture.

6 o'clock.—Not much pain in the abdomen. Pulse under 60, and weak. No vomiting nor hiccough; skin warm and moist. An enema was administered, which acted in half an hour. Wound dressed with isinglass plaster.

November 10th.—Pulse 66. No tenderness of the adbomen. The wound dressed with water dressing, and suture removed. Has had a good night. Bowels relieved twice after the enema.

12th.—Continued to go on very favourably. Bowels opened twice yesterday after another enema had been given. Some little redness about the wound, and tongue white; but, in every other respect, the patient's condition is highly promising.

This woman has also a femoral hernia on the left side; but, at the period when I examined her, the parts had been reduced.

This case is interesting in several points of view:—

1st. As demonstrating the remarkable thinness of the coverings of a recent femoral hernia; one that had not existed much above twenty-four hours previously to the operation. You saw that as soon as Mr. Quain had divided the integuments, fat, and superficial fascia, the dark coloured bowel was exposed to view, through the other very thin investments.

2ndly. The fact of a very dark colour, amounting almost to blackness, of the intestine, not being a proof of mortification of it, or an objection to its reduction, provided it retain a certain degree of firmness and its natural polish, while no

cadaverous effluvia exhale from it. In cases of doubt, (as the present one may be regarded in relation to the complete recovery of every point of the discoloured, nearly black, intestine,) after dividing the stricture, you may wait a little before you decide to reduce the bowel, and observe whether the black blood in the veins will return, so as to diminish the dark colour of the intestine. When all doubt cannot be removed, I advise you to reduce the bowel, which may be done in this instance, but leave the external wound unclosed. The reason for this is, that if the bowel give way, the effused matter will more easily pass outwards; and, if the adhesive inflammation should fix the intestine near the crural ring, and exclude the effused matter from the cavity of the peritoneum, the patient may yet be saved, and even the artificial anus be ultimately cured.

When you observe the bowel to be of a very dark colour, be sure not to let the patient eat solid food for at least ten days after the operation. I lost one patient from her inattention to my advice on this point. She went on well for three days, and then, on the fourth, in consequence of having eaten too much solid food, a small opening in the bowel, just sufficient to admit a quill, was formed, followed by effusion and peritonitis.

3rdly. This case is another instance of the small intestine forming the most usual contents of a femoral hernia.

4thly. Of a double hernia, likewise; that on the left side having been the original one. Sir Astley Cooper observes, that he has rarely dissected a subject with a femoral hernia of long standing on one side, without finding another in an incipient stage on the other.

Gentlemen, I will conclude these remarks on the cases of femoral hernia with a few directions, which will be of use to you in discriminating the disease from others.

1st. When called to a case supposed to be a femoral hernia, ascertain the position of the tuberosity of the os pubis in relation to the neck of the tumor. If the case be a femoral hernia, this point of bone will be to the inner side of, and a little higher up than, the neck of the hernia.

In an inguinal hernia, you will find its neck above the tuberosity of the os pubis.

In a femoral hernia, if you draw down the tumor, Poupart's ligament will be felt to extend over the neck of it.

The forming of a just diagnosis is here very important if the hernia be strangulated; for the direction of the pressure in the taxis should be different in the two cases; and, in a femoral hernia, if you were to cut the stricture freely upwards and outwards, on the supposition of its being an oblique inguinal hernia, the epigastric artery and even the femoral vein would be endangered.

Many femoral herniæ have been mistaken for buboes, and poulticed, until the intestine mortified. In some other instances, a puncture has been made, and the bowel opened.

A psoas abscess sometimes causes a swelling under Poupart's ligament, with an impulse in it on coughing, and some diminution of prominence when the patient lies down. Here, remember, that if the case be a psoas abscess, the swelling is rather nearer the anterior superior spinous process of the ilium than a hernia, and that it never completely returns. The swelling has also been preceded by much pain in the loins.

Enlargement of the crural vein may be known from a femoral hernia, because if you put the patient in the recumbent position, and press the blood out of it upwards, the swelling subsides, but returns if pressure be made above it, which would not happen if the disease were a hernia.

In this hospital, last summer, I had a woman with a fatty tumor in the exact situation of a femoral hernia, and rather suspected, from the history, to be connected with the sac of a former hernia.

The progress of the case of Mary Simmons, in whom the bowel was so dark-coloured at certain points, I recommend you to watch attentively, and any remarkable circumstance which may occur in the patient will be noticed in my next clinical lecture.

LACTUCARIUM.

By Dr. Fisher.

Königl. Hofrathe und kreis-phisicus zu oels.

Aware that the list of medicines requires sifting and arrangement rather than addition, nevertheless the author of this paper desires, from ten years' experience, to obtain for Lactucarium a permanent place in the Materia Medica.

Lactucarium is known to be the juice obtained by making incisions in the stalk of the Lactuca sativa and virosa, and left to dry in the open air. It has an acrid taste and bitter smell, and contains malic acid, potassa, resin, and a glutinous matter, but no morphia. According to Buchner, the active principle is Lactucin, which is combined with the resin. The Luctuca virosa will yield three times as much Lactucarium as the Lactuca sativa.

The Lactucarium gallicum, (parisiense, *theridax* (Θρίδαξ) *theridace*), is obtained

from the Lactuca sativa; the Lactucarium anglicum, from the virosa. The latter is very much the stronger, of which, according to Rothnel, half a grain will produce the same effects as two or three grains of the French preparation.

During the first century, A.D., the seed and the juice of the stalk of the Lactuca sativa were in high repute for their sedative powers. And many modern physicians (Francois, Coxe, Rothanel, Hueter,) who restored the use of the forgotton remedy, agree as to its efficacy.

The Lactucarium quiets without previously exciting, and produces sleep without insensibility; it allays morbid sensibility, lessens the action of the heart, and produces a general tranquillity throughout the whole constitution. In large doses it produces delirium without stimulating, diminution of nervous power, disturbance of the digestive functions, and vomiting.

The Lactucarium administered in small doses confines its effects to the periphery of the nervous system; in larger doses, it affects the brain, and produces sleep by relaxing and exhausting the sensibility. It is, consequently, applicable wherever it is required to allay nervous irritation, and reduce an excessive action of the vascular system originating in an abnormal state of the nervous functions, and where, on that account, antiphlogistics must be aided by sedatives and antispasmodics.

The field for its administration is in all the neuroses and neuralgia, especially the convulsions of childhood, when they do not originate in stomach affections, convulsions during difficult parturition (Hüter wendt Rothamel, Wiesner) spasmodic asthma, hooping cough, and cramp in the stomach. Material relief is afforded by Lactucarium to the distress and want of sleep attending hydrothorax and diseases of the lungs, as well as to the restlessness and anxiety of hysteria. Hyeter recommends it in spasmodic hæmorrhages, (spastichen blutungen) irregular hæmorroids, &c. It might, perhaps, be administered in the second stage of the arachnitis cerebralis and spinalis of children, when the bleedings, cold affusions, &c. which have been used for the tonic and clonic convulsions, have been of no avail, and we dare not give narcotics on account of the irritable state of the patients. It is probably useful in mania by diminishing the increased irritability of the brain, when we are afraid to continue the powerful antiphlogistics and derivative drain upon the alimentary canal, lest they should produce excessive debility and imbecility. Therefore Bramer rightly considers the Lactucarium as a medicine which, in delirium tremens, allays the excited state of the cerebral system, and thus induces the critical sleep, without the previous and simultaneous excitement of the vascular system, which is caused by opium and hyoscyamus.

To determine the question of whether the Luctucarium should be retained in the materia medica or not, we should inquire whether any and what peculiarities are discoverable in the juice of this plant, by a comparison of its effects with the effects of the narcotic substances which are now generally used as medicines.

From *opium* it differs in that it will bear no comparison with it as regards its narcotic effects; and likewise that it does not restore (as opium does) the normal relation to each other of the two agents of organic life by previously increasing the action of the vascular system, and therefore it is not contraindicated (as opium is) by a morbid excitement of the circulation.

From *belladonna* it differs in that the belladonna blunts, and at length destroys the sensibility of the nerves, whereas the sedative effects of the Lactucarium are the primary, and its action mild; it may, therefore, be administered in morbid sensibility which has nearly exhausted itself, and in inflammations, where the morbid irritability has passed into a state of constant pain: whereas belladonna can only be serviceable by destroying the sensibility.

The *conium maculatum*, like all narcotics, depresses the nervous system, but with this peculiarity, that it lessens arterial and muscular action by increasing the action of the veins (?). The Lactucarium allays the sensibility immediately, without any effect upon the nervous system.

Hyoscyamus is a narcotic which produces mild but purely sedative effects: it brings on a state of paralysis as the consequence of a primary excitement of the nerves, so that the fatal narcotic effects of hyoscyamus are produced, not by apoplexia cerebralis sanguinea, but by paralysis of the nerves. It differs, therefore, from the Lactucarium by the sedative effects of the Lactucarium being obtained by a direct lowering of the sensibility, whereas these effects of hyoscyamus are preceded by an irritation of the nervous system.

Lactucarium is, therefore, recognized as a medicine possessing peculiar therapeutic properties, inasmuch as it quiets the nervous system, and, although given in moderate doses, it cannot allay morbid sensibility of the nerves in a higher or even an equal degree with the pure narcotic, and yet it produces its sedative effects without being attended or followed by other effects which limit or altogether forbid the employment of such substances.

The Lactucarium is properly a sedative

and paregoric, a link between hydrocyanic acid and hyoscyamus, and, therefore, since it is neither more costly nor more nauseous than other narcotics, it may justly lay claim to a place in the materia medica. It is liable to spoil by keeping, and, from being insoluble in water, it forms a sediment in mixtures, which are the only objections to it.—*Rust's Magazine*, 53 Band. 1 Heft.

DR. GIBOIN'S EXPERIENCE IN THE USE OF SOOT IN CERTAIN AFFECTIONS OF THE BLADDER.

Out of six cases of chronic inflammation of the bladder, four were cured by means of the following injection; the remaining two, which had ulceration in the fundus of the bladder, died. The injections were newly prepared and repeated thrice a day. Two ounces of chimney soot, as perfectly as possible freed from foreign bodies, were allowed to boil for six minutes in a pound of water, and the decoction filtered through paper. The pain was relieved immediately after the first injection. Dr. Giboin administered the soot internally in two cases of catarrh of the bladder which were almost despaired of, and with the best results. It was given in the form of pills, beginning with 4 grains daily, and increasing it soon to 16, 20, and 30 grains. These pills were prepared by boiling the finest soot for some minutes, filtering it through paper, evaporating the filtered fluid in a porcelain bason over a slow fire or sand bath to the consistence of an extract, which is made up into pills.—*Medizin. Jarbuch des k.k. Osterreichischen Staates.*

SALICINE.

Salicine was tried in 108 cases of intermittent fever by Dr. Fevrio in Mantua, and with the exception of two, where he was obliged to repeat the dose (24 grs.) it prevented the approaching paroxysm. Its quickest action is obtained, when given in powder, less so in the form of a bolus, but never attended with unpleasant consequences. The raw salicine is more powerful than the purified.—*Omodei Annali Universali.*

KREOSOTE.

Cornelianis, professor of clinical medicine in Pavia, has made some interesting researches concerning this material, from which it is concluded, that when given in large doses (from 10 to sixteen drops) it produces death immediately without any organic lesion discoverable in an early post-mortem examination; or if not death, convulsions or hemiplegia follow immediately upon its administration. The almond, olive, and castor oils, and the volatile stimulants, appear to possess some power as antidotes. Acetic acid increases its poisonous effects. Applied externally it has been found useful in psoriasis, several kinds of lichen and scrofula, as well as in simple ulcers. Internally it has been given with advantage in polydipsia, chronic catarrh of the lungs, and in several cases of diarrhœa.—*Allgemeines Repertorium.*

BOOKS RECEIVED FOR REVIEW.

On the Anatomy of the Breast. By Sir Astley Paston Cooper, Bart. F.R.S. &c. 4to. with folio Plates. Longman & Co.

Aphorisms on the Treatment and Management of the Insane, &c. By J. G. Millingen, M.D. Churchill.

A Compendium of Materia Medica and Pharmacy. By Hunter Lane, M.D. F.L.S. &c. Churchill.

Treatise on the Ear, including its Anatomy, Physiology, and Pathology. By Joseph Williams, M.D. Churchill.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Feb.* 18, 1840.

Age and Debility	19	Fever, Scarlet	1
Apoplexy	1	Heart, diseased	3
Asthma	6	Hooping Cough	2
Childbirth	1	Inflammation	8
Consumption	34	Bowels & Stomach	4
Constipation of the Bowels	1	Brain	4
Convulsions	18	Lungs and Pleura	4
Croup	1	Insanity	1
Dentition	5	Measles	1
Dropsy	12	Mortification	2
Dropsy in the Brain	4	Paralysis	2
Dropsy in the Chest	1	Thrush	2
Erysipelas	1	Unknown Causes	70
Fever	9	Casualties	6

Decrease of Burials, as compared with the preceding week . . . 12

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Feb.	Thermometer.	Barometer.
Thursday . 13	from 36 to 48	29·69 to 29·79
Friday . . 14	27 42	29·85 29·87
Saturday . 15	27 45	29 79 29·66
Sunday . . 16	43 52	29·69 29·80
Monday . . 17	50 43	29 92 30·01
Tuesday . . 18	31 41	30·12 30·15
Wednesday 19	32 36	30·19 30·26

Wind S.W. till the morning of the 17th; since N.W. and N.E.

On the 13th generally clear; morning and evening of the 14th foggy, also the morning of the 15th; since generally overcast, with frequent falls of sleet and snow during the last three days, though the barometer, which has not been so high since the 11th of January, continues to rise. Nearly one-tenth of an inch of rain fell on the afternoon of the 15th.

Rain and melted snow, ·115 of an inch.

Charles Henry Adams.

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, MARCH 6, 1840.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.

Surgeon to the St. Marylebone Infirmary.

Phlegmonous Erysipelas. — *Causes—Symptoms—Treatment.*

Eczema. — *Varieties—Symptoms—Diagnosis—Treatment.*

Scalp Diseases. — *Varieties—Diagnosis—Treatment. Eczema of the Scalp.—Characters—Treatment.*

PHLEGMONOUS ERYSIPELAS.

By phlegmonous erysipelas, erysipelas plegmonodes of Bateman, phlegmon erysipelateux of Desault, or phlegmon diffus of Dupuytren, we understand an inflammation of the skin, and of the subcutaneous cellular tissue, with diffused suppuration and great constitutional disturbance. It appears to have been known to Galen, Forestus, Plater, Franck, Cullen, and others; but has been more particularly described by Duncan, Dupuytren, and Lawrence. Still it is a disease which, though very frequent, and very grave, has been completely overlooked by many, and ill comprehended by other authorities in our profession. Some surgeons have confounded it with phlebitis; others with inflammation of the lymphaties, and other affections.

In this disease, the morbid condition of the skin and cellular tissue is very remarkable: at first, when cut into, a milky sero-purulent fluid escapes; in a few days pus is collected into many small points, or diffused through the cellular tissue: beyond the limits of the purulent inflammation, if we make an incision, we find a bloody serous fluid. The cellular tissue is broken down; fragments are detached, which, when seized by the forceps, at first resist. The skin is separated; its adherences are destroyed; it can be raised or blown up without difficulty, and holds on merely by means of small vessels and nerves, which for a time resist. The skin then becomes shrivelled and gangrened at many points: this state may extend to great part of a limb. Then the cellular tissue, become grey or blackish, comes away in large pieces, or floats in the ill-conditioned pus, which often makes way through the interstices of muscles, and sometimes dissects them as completely as if it were done with a scalpel.

Causes.—Among the causes, other than those we mentioned when speaking of simple erysipelas, we may add a sanguine bilious temperament, cold and damp, irritating applications upon contused wounds, or punctures made with instruments impregnated with putrid matter. It is often observed from slight injuries in persons exhausted by fatigue or misery. When a contusion or wound happens in a healthy person, rarely is it followed by this affection; but if it happen to a person already suffering from gastric derangement, this disease does not unfrequently follow.

Symptoms.—Phlegmonous erysipelas is accompanied by inflammation of the subcutaneous cellular tissue to a greater or less depth; it may occur at any part of the body, but is most frequently seen in the limbs. It is always more intense than simple inflammation. Even though the cellular tissue be not very profoundly inflamed, it is accompanied by very severe burning pain, and a very decided tumefaction, with much pain. Pressure is very painful; it dissipates the redness, and the skin slowly resumes the morbid colour. It may terminate, towards the fifth or sixth day, in resolution; but generally the pain

becomes pulsating, the redness is diminished, and diffused suppuration takes place; and when an opening is made for the pus, it is found mixed with shreds of sloughy cellular tissue. When the cellular tissue is very deeply affected, or when the disease affects the whole limb, the early symptoms are very decided; and the cellular seems to suffer as early as the cutaneous tissue; sometimes even before it. Then the pain is deep seated; the slightest movement of the part makes the patient cry out: the skin is red and tense, painful on the slightest pressure; the pulse is hard, frequent, and small. There is often delirium, great thirst, dryness of the tongue, and profuse sweats. It almost never terminates in resolution. Suppuration takes place from the fifth to the seventh day; sometimes sooner: it is accompanied by rigors; the redness of the skin and the pain diminish; but the tumefaction increases. The part is very puffy, and remains in this state for some time. Sometimes the pus remains long without making for itself an opening, but most commonly, either from an opening spontaneously or artificially made, pus escapes mixed with gangrened cellular tissue. In these cases the duration of the disease is usually long, pus burrows, large portions of cellular tissue are broken down, and occasionally the greater part of the muscles of a limb are completely dissected; sometimes colliquative diarrhœa comes on, and the patients perish, exhausted with fever and profuse suppuration. The symptoms of phlegmonous erysipelas are sometimes still more intense, when the aponeuroses bind down and prevent the expansion of the parts, so as to cause strangulation; on the second or third day violet spots are seen at the erysipelatous surface, the skin loses its sensibility, vesications are developed, they rapidly extend, sloughs are formed, are gradually detached, and, if things go on favourably, after a certain quantity of suppuration, they heal; but if the parts affected be of great extent, the system soon gives indications of suffering; serious gastro-intestinal symptoms are developed; there is great prostration, dry tongue, violent diarrhœa, very quick pulse, muttering or taciturn delirium, decomposed features, and death.

A division of the disease into degrees or periods makes it more simple and readily appreciable. In the *first* there is depression, lassitude, anxiety, weight in the head, anorexia, and sleeplessness. These symptoms may last from twelve to thirty-six hours, or may be accompanied by irregular rigors, dry skin, fever, local perspiration. When the inflammation is about to be manifested, a heavy contused feeling is experienced, with itching, irregular redness, and slight œdema, which retains for some time the impression of the finger, and does not quickly resume its colour; the redness deepens at the centre. The puffiness of the part gradually acquires solidity, vesicles are raised, the heat is burning, the pain pungent, febrile action considerable, pulse quick, hard, with sleeplessness, delirium, dry, red, blackish, or cracked tongue: hard lines are found passing towards the ganglia, which become hard and painful; urine small in quantity, and of a brick red colour. This is a period in which resolution is possible: in that case, after two, three, or four days, there is abatement of the general and local symptoms, and slow and gradual desquamation of the cuticle. In a *second degree* the surface affected is extended, tumefaction increases, pain is more violent, with a deep sense of tension and strangulation, great rigors, increased febrile action, depression, delirium, irritation of the digestive system, nausea, or even vomiting. After three, four, or five days, the symptoms seem as it were stationary, and sometimes appear as if they would end in resolution. This apparent remission, which may deceive the inexperienced, is a consequence of the establishment of suppuration, and must not, therefore, inspire you with security. Then comes a *third period*, in which the suppurative action extends in all directions, according to the quantity of resistance it meets. The part is then much increased in bulk, fluctuation is evident, the skin is thinned, and loses all connection with the deeper parts; this is especially the case in the lower limbs. The skin, which retains a little dull redness, heat, and life, sloughs, not from excess of inflammation, but in consequence of the destruction of the vessels necessary for its support. We then feel under the skin a considerable quantity of fluid matter, with here and there a resisting point; these points are masses of sloughy cellular tissue. If an opening be made, either naturally or artificially, enormous quantities of very fluid, greyish, sanious, or fetid pus escape, interrupted by those masses of cellular tissue which, for a moment, block up the opening: sometimes an abscess of this kind will pour out two or three pounds of this fluid; and the bulk of the part is lessened in proportion; the skin then shrivels up, mortifies, and breaks up, many fistulous channels are formed, and the suppuration is almost inexhaustible. The general symptoms may then appear improved; but perspirations may come on with hectic, colliquative diarrhœa, exhaustion, and death. We can readily conceive that, in this third degree, the success of any treatment is uncertain.

If we succeed, the sloughs are detached, suppuration diminishes, the skin gets new connections and means of nutrition; but it is only after a long time, and much suffering and danger, with considerable mutilation, that the return of health can happen.

Treatment.—The division into degrees affords a certain facility in applying the treatment. In the first, the object is to prevent the inflammation proceeding to suppuration. Besides absolute rest, and the other obvious means, we may begin by applying cold, unless there be any local or general complication which contraindicates it; but when the inflammation is deepening, it must be discontinued. Uniform, but not violent, compression has been employed, and, it is said, with considerable success. If the part will admit of the easy application of compression, in cases where, from a debilitated constitution, bleeding cannot be resorted to, it may be tried; but then I must also point out its disadvantages. Ill-applied, it may induce gangrene, and other complications; it can, therefore, never be generally used. *Blood-letting* must be cautiously used, because you will find that the cases are very few in which it will arrest the progress of the disease; and if it do not, it will most likely aggravate the after periods. If the patient be in strong health, we may begin by taking blood from a vein; and if the indication be pressing, we may apply leeches or cupping at the part: these should be accompanied by warm-baths, local or general. If cellular inflammation have set in, leeches, emollients, and sedatives, must be used. As to topical emollient applications, at first I prefer refrigerants; but afterwards emollients do best: they should not increase the heat at the part; but rarely will either means prevent suppuration. *Mercurial* inunctions, according to Ricord, Serres, and others, are very successful. My own experience of them is less favourable. *Blisters* at the part itself were used with success by the late Petit, of Lyons, after lessening vascular action by blood-letting, and treating gastric symptoms by emetics; if the inflammation were very extensive, several blisters were applied; by this means in a few days an enormously tumefied limb resumed its natural bulk, or, if this was not so, the suppuration was much more limited. If, however, the inflammation be intense, and adynamic symptoms are threatening, we must not venture upon this treatment, or we may speedily see gangrene developed. There can be no doubt that all violent irritations applied to the centre of a phlegmonous erysipelas, whether that irritation be excited by blisters, sinapisms, or cauterization, is too doubtful an agent to be rashly used because an occasional case of very decided success has been observed. Emetics and purgatives do well whenever there is gastric complication; but we cannot rely much on them when great effects are required.

When *erysipelas phlegmonodes* has arrived at its *second point*, it is necessary to relieve the tension, and give vent to the pus. As the pus burrows, or when it affects the sub-aponeurotic tissues, less room for expansion is afforded, and symptoms of strangulation occur. We can, in these cases, place little reliance on the powers of nature to restrain the burrowing and the breaking down of the cellular tissue; nor can we rely upon compression to prevent the diffusion of pus; and it may increase the tendency to strangulation: it will rarely succeed; it will often fail. One only means can be employed in this case—*incisions*, passing fairly into the cellular tissue, or beyond it if necessary. The object is to make a way for the pus, and, therefore, they should penetrate as far as the pus. When once you have given the pus a way of escape, compression may be usefully employed; it directs the pus towards the opening, and brings the separated tissues into contact, so as to give greater chance of their adhering. I do not think these incisions should be too long, or the after wounds may be tedious in healing. I prefer having many short to a few long ones; they open a greater number of collections, and, therefore, offer greater facility for the escape of pus. If there be sub-aponeurotic mischief, the incisions should be made to penetrate these fibrous tissues; and they should then be crucial, otherwise the relief will be insufficient, and the escape of pus will not be sufficiently facilitated. When should these incisions be made? In circumscribed abscess this is done as soon as fluctuation is evident. This rule would be fatal as applied to phlegmonous erysipelas. We must make our incisions immediately that the characteristic pasty œdematous feeling is produced, which succeeds to renitence. We must carefully ascertain that the incisions afford the desired relief, otherwise it will be necessary to extend them through the aponeuroses. It is hardly necessary to observe that in making these incisions you must carefully avoid important organs, especially blood vessels, which, in such cases, often give out much blood, and the patient is already sufficiently prostrated. When these incisions are made, graduated compression, with frequent dressing, are all that is locally required; but a free passage for the pus must be left. In this stage of the disease, refrigerants, blisters, mercurial ointment, and other similar means, are in almost

every case objectionable. When suppuration is established, the action of blisters is rarely efficacious; and then, if applied at all, should be at some distance from the disease; if applied at the part, they would only increase suppuration.

In the *third stage* of this disease, our object is to favour the escape of pus, the throwing off sloughs, and the adhesion of the skin, as well as to sustain the strength of the patient through the exhausting influence of the disease. In many cases simple dressing, such as I have described, is sufficient; but in many cases there is so little action, and the sloughs are so long in coming away, that it is necessary to make tonic and stimulating applications, as well as to moisten the dressings with one of the alkaline chlorides. In this period, the general treatment must tend to sustain the strength, and to enable the system to bear up against the often profuse supporation. Good and sufficient food, bark or iron, and malt liquor or wine, must be taken; but the digestive organs must not be too much loaded. When cicatrization is completed, motion of the part must be carefully employed, because those large cicatrices may give way. A small vesicle filled with pus, almost like a common aphtha, appears at a point; it opens, and a little ulcer, with a greyish fundus, follows. Sometimes it rapidly extends, so as to destroy a great part of the cicatrix in twenty-four or thirty-six hours. It is true, it may soon cicatrise again, and the second cicatrix is usually stronger than the first; but still it is as well to avoid it.

ECZEMA.

I will now bring under your notice a disease which you will often be called on to treat; and I hope to be able to show you that, ordinarily, the treatment is simple and successful—Eczema. If you now look at the classification of this affection you will find it to be vesicular. These vesicles are very small, agglomerated, and occupy a surface of varying extent. Here is a case of simple eczema, at the bend of each arm, on the one side more advanced than on the other. You see the vesicles are very small, very thickly gathered; and you see that although there is a general redness, there is no increase of it around each vesicle. The vesicles, you see, present a glistening appearance. On the other side, the fluid in some of them is absorbed, the vesicle is shrivelled, and there is a very slight desquamation of the cuticle. It is very often seen on the arm, the forearm, or between the fingers, and most frequently in women and children. The patient complains of its itching now and then considerably, but there is no general exeitement. It would be difficult to mistake this disease for any other, especially if you employ the means of investigation which I have recommended.

In this simple form, the disease may be cured usually in two or three weeks; but it may be prolonged by improper treatment, or by the successive development of new vesicles. It is frequently found on the arms, the forearms, and between the fingers; the itching is then considerable, and the disease is often treated for scabies. The importance of diagnosis is here especially evident, because irritants aggravate materially the eczematous affection. Indeed sulphur, the remedy *par excellence* in scabies, will itself produce a particular form of eczema, especially in women and young children. In going around the Itch Ward this affection is very commonly seen.

Here is a case of another form of this disease, the *Eczema Rubrum*. The eruption was here preceded by heat and tension. You see the skin is very red and inflamed, studded with small glistening points, which will become as large as a pin's head, and will present a marked inflammatory areola. By this day week you will find the redness much diminished; the fluid will have disappeared, the vesicles shrivelled, and the cuticle beginning to exfoliate. Sometimes the vesicles assume a confluent character, break, and a milky fluid escapes, and irritates so as to occasion superficial excoriations. These diminish, the fluid thickens, becomes concrete, forms scales, such as you see here; the exhalation gradually ceases, the squamæ adhere longer, and inflammatory action subsides.

Here is an extremely well marked case of another variety of the disease, *Eczema Impetiginodes*. In some cases it presents at first vesicles, much the same in character as those of eczema rubrum; in some this stage is very short. In the case before you, the strictly vesicular period did not extend beyond a few hours, when the pseudo-pustular period arrived; and this circumstance has very frequently caused it to be confounded with scabies. The inflammation is acute, the integuments appear tumefied, the fluid in the vesicles is soon sero-purulent. They are more or less agglomerated and confluent; they may open early, the fluid becomes concrete, and yellowish scabs, such as you see here, are presented. These scabs fall off, and leave a surface from which a reddish serum flows, and for some time the scabs are renewed. In the present individual you see several varieties in different stages, the *E. simplex*, *E. rubrum*, and *impetiginodes*. The impetiginodes may be brought to an end in five or six weeks, or may extend to three or four times that period; but then it is usually chronic, and becomes more truly vesicular.

When the disease assumes a *chronic* form,

the skin, continually irritated, becomes more profoundly affected, cracks, and constantly exhales a reddish fluid; and this may continue for many months, or even years. Here is a case in which the leg has been affected for more than a year. It will appear often to be scabbing over, and the secretion drying up; the patient is in spirits, the practitioner satisfied, when, at some point, a weeping is discovered, and soon the surface presents its former diseased appearance. Never, therefore, commit yourselves by promising a speedy cure of this affection; be sure at once to give yourselves time enough. When the exhalation, in this form of the disease, is dried up, and the surface is covered by thin laminæ, it may be, and has been, mistaken for psoriasis; but new vesicles will usually soon unmask the disease. Here the itching is often so great that the patient cannot resist scratching. Usually we hold that this disease is not *contagious;* but Biett believes this to be possible, in cases where the surfaces are long in contact. These affections are most commonly seen in spring and summer; but they may occur at any time—may succeed to blisters, irritating applications, burns, and so on.

Diagnosis.—As you see, it would not be difficult to mistake these affections for scabies. Like it, they are often developed without inflammation—like it, they often affect the wrists and sides of the fingers—like it, they produce great itching; but, then, the vesicles of eczema are flat, those of scabies are conical-acuminate: those of eczema are agglomerated, those of scabies are distinct and isolated. The itching of eczema is stinging, that of scabies is rather an agreeable sensation. Scabies is essentially contagious; eczema is either not at all, or very little so. Eczema rubrum sometimes bears a resemblance to miliaria; but, then, in miliaria the vesicles are never confluent—they are larger, and there is more general excitement. The eczema impetiginodes can scarcely be mistaken for impetigo: the surface occupied is usually large. Impetigo pustules never, at their commencement, contain a transparent serum; they have a large base, and a thicker fluid. Eczema is, *at first*, always vesicular, and never contains true pus, but a yellowish sero-purulent fluid. Then, impetigo produces true thick scabs, yellowish and rugous; in eczema we see only thin squamæ. When the disease is chronic, it may be confounded with lichen. For instance, here is lichen agrius; it is accompanied by an exhalation of serum, followed by scales; but they are larger, thicker, yellower, than those of eczema. More like scabs, they do not leave after them a red, smooth, shining, or slightly excoriated surface, but a surface chagrined by small prominent points—papulæ: and, then, in lichen we can always find some papulæ, where eczema would present vesicles. However, where it occupies the hands, much attention is sometimes necessary. Again, it may be confounded with psoriasis. Here, again, the surrounding vesicles will be wanting. There may be no weeping; and, after the scales exfoliate, instead of a smooth, red, elevated surface, as is seen in psoriasis, we find a cracked one.

Prognosis and *Treatment.*—When *acute*, these affections are ordinarily manageable; but when *chronic*, they are often extremely intractable. In the treatment of simple eczema little difficulty is experienced. In the case before you I shall exhibit nothing internally but acidulated drinks,—nitric acid lemonade, for instance, with occasional saline aperients; and I shall apply tepid emollient lotions, acidulated with nitric acid—say, in the proportion of a drachm of the dilute acid to a pint: and I have no doubt, when you see them this day fortnight, they will be as near as may be cured. If they resist,—if the irritation be great—the eruption extensive,—we sometimes find it necessary to exhibit laxatives every second day, and to use alkaline baths, which have a very decidedly soothing effect, especially when the irritation and itching are great. Eczema rubrum and impetiginodes often require a more energetic treatment—such, in fact, as is required in acute inflammation. If the affected surface be extensive, the pulse be raised, the patient young and vigorous, general as well as local bleeding will be found decidedly advantageous. Around the margin of the eruptions, or upon the inflamed surface itself, leeches may be applied with advantage again and again. The diet should be spare, and principally vegetable; tepid and emollient baths should be daily used. If the surface be much excoriated or cracked, great comfort is often experienced from the use of a potatoe cataplasm. Sulphurous or mercurial applications should be carefully avoided; they usually aggravate the disease. When the symptoms are yielding, we may employ usefully the same means which were recommended in simple eczema.

In *chronic eczema*, I have found it necessary to use a great variety of means, and you will find it very desirable to be armed with numerous remedies. Almost every new application which is made, or plan of treatment which may be adopted, will seem to be beneficial. For a few days the signs of improvement will be manifest; the redness will be lessened, the fluid secreted decidedly diminished; and, while the person who is inexperienced is deluded by these appearances, and promises a speedy cure, he finds, at his next visit, that a retro-

grade course has begun. I try, first, acidulated drinks, with tepid baths, and usually with much amendment. It is, however, necessary, during the first few days of this treatment, to watch the stomach, and until it becomes accustomed to the acid., the patient should drink water directly after the acidulated fluid, otherwise it may be deranged. The baths should be from 88° to 93°, and the patient should remain in for an hour at a time. If the irritation be considerable, they should be made emollient by the addition of half a pound to a pound of gelatine, made from parchment or bone shavings. I have found it very useful to exhibit laxatives with acids; and I arrange it in this way: I give acids for five or six days; they are then intermitted for two, when the patient takes laxative doses of sulphate of soda. If the disease seems obstinate, I have now and then succeeded well in substituting alkalis for acids; and, if the itching be very distressing, the patient may be greatly relieved by taking an alkaline bath just before going to bed. When the eruption is old and extensive, you may find it desirable to exhibit purgatives, especially sulphurous aperient waters, such as those of Harrowgate; to use the vapour-bath; to take now and then, at night, calomel, with Seidlitz powder in the morning. If the eruption be confined to a small point, a decidedly beneficial modification may be impressed upon it by the use of ung. hyd. protochlor. Occasionally itching will be so annoying, as to oblige you to try other means of mitigating it, such as almond emulsion, with Prussic acid, in the form of lotion, dulcamara, or henbane. In women, when very obstinate I have known the tinct. lyttæ produce very remarkable amelioration; I begin with ten drops three times a day, and carry it up to thirty. Arseniate of potash and soda have, in obstinate cases, now and then succeeded very well; sometimes an ointment of the biniodide of mercury will act very well, as also will the sulphur fume bath. With respect to arseniates, mercurials, and other similar energetic means, I feel that though they will often, in a very striking manner, relieve the patient of his infirmity, yet the disease seems to be incompletely cured, for we not unfrequently see it reappear after a comparatively short interval.

SCALP DISEASES.

I must now request your particular attention, while I endeavour to make you acquainted with the diseases of the scalp. Medical men generally have exhibited such a lamentable want of power to diagnose, and to treat these affections, that empirics and old women have been, and still are, resorted to as the persons best informed upon the nature and treatment of these diseases. Much of this is owing to the mode of describing them in books, no two authors being agreed upon a nomenclature, and all being disposed to refine and multiply species to such an extent, that the student who sits down to acquire a knowledge of them almost certainly abandons the task in despair and disgust. Why so much apathy has been displayed on the subject of skin diseases by our profession, it is difficult to conceive; few classes of diseases are so frequently seen; and although they may not usually threaten the life of the sufferer, they occasion so much inconvenience that they are deemed little less important by the public than more fatal diseases. Why, too, students have hitherto enjoyed no facilities in observing and studying these diseases, it is difficult to understand; why, in certain courses of lectures, they are not treated of at all; why, in others, they are merely glanced at; why, in none, they are properly considered; and why, in examinations before the constituted authorities, they form no part of the business, are questions which I shall not attempt to resolve. I trust, however, that ere long this state of things will be remedied. I trust that those bodies, to whom the business of framing rules for the furtherance of education belongs, will require from candicates a certain knowledge on these subjects; and further require that, in all the institutions attendance upon the practice of which is recognised, clinical instructions upon these subjects should be provided. In all our metropolitan establishments, skin affections are presented in sufficient number for the purposes of instruction; but at present they are usually made out-patients; and, as the student's attention is not directed to them, he is scarcely aware that they are found there at all.

The scalp is affected by certain of the vesiculæ,—herpes, eczema, by certain of the pustulæ,—impetigo, porrigo, and by squamæ,—pityriasis, lepra. If you bear in mind this circumstance, it will very much lessen the difficulty of diagnosis; and if to this you add that when you have satisfied yourselves by the means I recommended in my former lecture, to which of these three orders the disease belongs, the field is still further narrowed, and the chances of error still further lessened.

Of the diseases of the scalp which I have been called upon to treat during the last twenty-eight months, amounting to above 280 cases, more than 180 were cases of eczema; seven were cases of herpes; sixty-five were cases of impetigo; six were pityriasis; eight were cases of psoriasis, or lepra; and eleven only were cases of porrigo. From inquiries I have made

among persons whose opportunities of observation have been favourable, I am inclined to think that the proportion shown in my own experience is about that which is usually observed. It is true that now and then the proportion would seem to be different; but the variance is unquestionably owing to particular circumstances. Porrigo has broken out in a school or a family, and has been rapidly communicated by contagion, so as to swell the proportion of the latter disease. Before I proceed to consider particularly each of these affections, I shall make some general observations upon diagnosis, and upon the management which I have found most advantageous.

Diagnosis.—I shall here exclude all small modifications, and avoid the multiplication of terms, and thus make the study of scalp diseases a comparatively simple matter. You have found a vesicle; the disease is vesicular; it must be, then, herpes or eczema: your first idea would be eczema, because for every single example of herpes, you will see from twenty to thirty cases of eczema. Herpes circinnatus is a circle, or, as it has been termed, a "*ring worm*"—eczema never so. Herpes only affects one or more points; eczema often the whole scalp; add to these the differential characters I formerly pointed out, and you can have no difficulty in making out the vesicular diseases which affect the scalp. Now a pustule must be impetigo or porrigo, and nothing is easier than to distinguish one from the other; but, at the same time, they are often confounded. The presence of a small pustule, containing a light straw-coloured pus, and having a central depression, not projecting above the integument, and not surrounded by a distinct inflammatory base, are characters usually sufficient to distinguish porrigo from impetigo. Again, the scab which succeeds to the umbilicated pustule is also umbilicated or cupped; and you can scarcely fail in diagnosis. Now and then, however, a case is presented in which porrigo, from successive exudations, loses somewhat of its cupped character, and looks like particles of mortar, and then bears some similarity to impetigo. Still the rough greyish crust of impetigo bears little resemblance to the continuous incrustation, thick, and circumscribed by regular lines, which we observe in porrigo; besides, this error can only exist by regarding the crust alone; for if we get off the crusts, the circular form of the patches, and the nature of the pustules, are sufficient to distinguish them. Sometimes, however, when impetigo larvalis has existed long, and the hair has fallen off, difficulty again arises, because one of the most striking characters of porrigo is the destruction of the hair bulbs, and permanent loss of hair at the part: but when the hair drops off in impetigo, it is a temporary and accidental matter; in the one case the bulb is destroyed; in the other it is merely inflamed. In a few cases of impetigo the hair has not been replaced; but then the appearance of the skin is characteristic; there are no cicatrices, as in porrigo; there is no destruction, but merely atrophy of the bulb. Therefore you must bear in mind that, whether you regard this pustule, the scab, or the appearance presented when the scab falls off, you can, under ordinary circumstances, have no difficulty in pronouncing a positive opinion as to the nature of the disease.

Scaly or squamous diseases also affect the scalp—lepra and pityriasis; and here the diagnosis is usually very simple; but at certain periods lepra may be confounded with porrigo scutulata; for instance, at the commencement and the end, when the crusts are falling off, and leave only a reddish annular surface, it may, at the first blush, be mistaken for lepra, especially when, as sometimes happens, there are patches on other parts of the body. But you must bear in mind that to see porrigo scutulata of the trunk or extremities is much more rare than to see lepra on the scalp. Then you must recollect also that the element of porrigo is a *favous* pustule; and if the annular arrangement were manifest, we should discover these pustules. It is almost unnecessary to urge those marked differential characters which belong to porrigo, which can scarcely be confounded, except during a very short period; the presence and nature of the scab, the alteration and destruction of the bulbs, the contagious character, render it almost impossible, at a later period, to fall into error.

Again, the characters of pityriasis are usually distinct enough to render the diagnosis easy; the form of the patch in lepra is a distinctive character; we can scarcely confound the furfuraceous exfoliation of this disease with the furfuraceous desquamation sometimes seen in certain inflammations of the skin. There is occasionally seen a desquamation consequent upon chronic eczema; but the vesicles are sufficient to prevent mistakes. We shall not confound it with porrigo, because the characters of the latter disease, to which I have referred, must prevent it. Still the confusion which has long existed on the subject of scalp diseases, people being obstinately determined to apply the term *scald head* to all, has been the cause of serious mistakes.

Biett used to state the case of a young man of thirty, who, for ten years, had been the victim of the most energetic and oppo-

site treatment; who, among other means, had been submitted to the *calotte*—who had taken mercury in all forms, according as one practitioner pronounced it to be syphilitic, and another a variety of porrigo—whilst the disease was a simple eruption, which yielded after a month or two of rational treatment. To avoid errors, less serious and distressing it may be, but still criminal, if we neglect to take proper precautions, and neglect opportunities of acquiring such knowledge, I now offer to enable you to diagnose correctly.

Treatment.—The first and most important circumstance as to treatment which you are to observe, is to remove as much of the hair as can be done without exciting considerable irritation at the affected parts. This cannot always be done by shaving the head; for in eczema and herpes, for instance, much unnecessary pain and irritation are occasioned by this means. It may be cut with a scissors close enough to prevent the matting produced by the secretion in eczema, and to allow of the direct application of emollients, for the purpose of inducing the removal, without discomfort, of the thick crusts and scabs so often found in such cases. If, in any of these diseases, it be desirable to remove the hair from the immediately affected part, I would not advise you to resort to avulsion, unless the points be very limited. It is a cruel and painful operation. It may be much better accomplished by using some depilatory application, and lightly passing through the hair every morning a small-tooth comb. Such a depilatory may be found in the carbonates of soda and potash, either mixed with lard, or dissolved in water in the proportion of one to two drams to the ounce.

The next point, of nearly equal importance, is cleanliness. Every morning, all applications should be carefully washed off with soft soap, so that the succeeding applications may be made directly to the affected part. These means, properly followed out, are sufficient for the cure of ordinary cases; but then all cases are not ordinary, and, therefore, it is necessary that I should put you in possession of other means of combating these diseases. Another circumstance which I must particularly insist upon is, the necessity of using, at the same time internally, specific means. I have pointed out to many of you, in passing through the Scalp-disease Ward, what a frequent co-existence, at least, was observed between these affections of the scalp and certain symptoms of scrofula. My own belief is that it is something more than a co-existence. Certain it is, that at least three-fourths of the cases you see there are greatly benefited, and the cure is greatly accelerated, by the exhibition of the ioduret of iron. Indeed, in all these affections, unless there be some decided contra-indication, I am accustomed to prescribe this medicine with the most satisfactory results. So much for means applicable to all forms of scalp diseases. We must now proceed to consider particularly each form of these diseases.

Eczema.—We have very ample means of illustrating eczema in all its stages, there being in the house at present not less than twelve cases, which we will presently pass in review. When this disease affects the scalp, it presents characters which are peculiar to it. It more frequently affects nearly the whole than a part of the scalp. The inflammation rarely affects the hair bulbs; and, therefore, the hair is commonly unaffected. If, however, the eruptions succeed each other for a considerable time, the inflammation affects the deeper tissues, and the scalp becomes spongy. When this is the case, the squamæ are accumulated, are white and glistening, so as to have induced Alibert to give it a particular name, (teigne amiantacée). Four-fifths of the cases we see here, occur in children between the ages of three and twelve; and we find that it sometimes occupies the posterior part of the scalp, sometimes the whole; and that, generally, it has a marked predilection for the ears, the back of the neck, and the forehead. In all children, but especially in very young, the tendency to mat the hair, by the exudation of an agglutinating fluid, is very marked, and the scalp is then occasionally much tumefied. The child, at this time, usually complains of the heat of the scalp, and the itching is extremely violent—so much so, that neither rewards nor punishments, not even the fear of the most rigid dieting, is sufficient to restrain the child from violently scratching the part so as to cover it with blood. This irritation is much increased by exposure; the head of a child so suffering should, therefore, never be unnecessarily exposed. Sometimes, though not frequently, the neighbouring lymphatic ganglia are affected, becoming tumid and painful. Under all circumstances, eczema, at its commencement, consists of vesicles, and these are sufficient to distinguish it. There is one point of the surface of the scalp, though not provided with hair bulbs, where the disease is especially present—behind the ears, but principally in females. We see cracks, more or less deep, succeeding to the vesicle. Sometimes the whole concha is tumid, the cellular tissue participates, the tumefaction extends to the meatus, it becomes contracted, and sometimes closed so completely, that the perception of sound is hardly possible, unless dossils of lint or sponge are introduced to prevent this contraction, and even this precaution is often

useless. The disease is most frequent among young children at the breast, and during the second dentition. More frequently I have found it to affect those who had fair hair and fine complexions than the opposite. If it have continued some time without treatment, the exudation proceeds; the fluid is viscid; the hair becomes matted into a yellowish or brownish mass. Sometimes the lymphatic glands in relation are irritated and very troublesome. It often happens, that when the crust is such as I have described, the scalp swarms with pediculi.

It is a matter of doubt with many persons, whether, when the affection exists in children during dentition, it is wise to interfere with it at all; and for these reasons: if the exudation ceases suddenly, either from natural or artificial causes, it is said that the child appears dull, restless, and unwell; that children who labour under this affection are often otherwise unusually well; and that if it exists during teething they rarely get convulsions or diarrhœa. I confess, that, up to this time, I have been indisposed to respect these eruptions, and have been well disposed to get rid of them as soon as possible, and so far I have had no occasion to regret it. I have never seen a true retrocession of eczema; neither, in his very extended experience, has Biett done so. It is true, these eruptions will disappear frequently under the influence of some internal inflammation; but that inflammation always precedes this disappearance—it is not, therefore, a retrocession.

In regard to treatment, I have little to add to the directions given in speaking of the disease when it affects other parts. The hair must be cut with a scissors as closely as possible; emollients, either in the form of lotions or cataplasms, must be constantly applied until the crust comes off; and, in simple cases, these means will suffice to cure the disease in six weeks or two months. If it resist, acids, laxatives, and the other means formerly indicated, must be employed.

CONTRIBUTIONS TO SURGICAL PATHOLOGY*.

By Wm. Henry Porter,

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ANEURISM OF THE CAROTID ARTERY.

In the details of the case which has given occasion to the following reflections, it may appear an almost fatal imperfection, that I have not been able to verify the correctness of my views by a post-mortem examination of the parts engaged in the disease, and perhaps the omission may, in some respects, diminish the interest that would otherwise attach to it; but although the case ended fatally, it was not in my power to procure permission to inspect the body, and the failure of my endeavours to obtain this object is one of the principal reasons to induce me to lay it before the profession. A length of time may elapse before I shall have an opportunity of seeing or treating an exactly similar case; perhaps (as they are very rare) I might never again meet with an example, and therefore I am anxious to call the attention of my brethren to the subject, in order that some one else may complete that which I shall only seek the merit of having commenced. There is another circumstance that invests this case with a more than ordinary degree of interest. Although attended with several unpromising symptoms, I freely confess I undertook the operation with very sanguine expectations of success. After it had been performed, every thing seemed to progress very favourably; even when the unpleasant occurrence of a suppurating sac made its appearance, I was not much alarmed; but when death took place, from a cause that I had scarcely anticipated, and but slightly dreaded, it at once led me to reflect most seriously on the circumstances that could render an operation, generally so successful, in this particular instance so entirely abortive. The case to which I allude was one of aneurism of the carotid artery: the chief point to be verified by dissection, is, whether of the external or internal? I believe it was of the latter; and the reasons on which that opinion is grounded will be found hereafter.

In considering the causes that may interfere with or prevent the successful issue of an operation, and the recovery of a patient, it is rather an unusual view of the subject to regard the situation of the tumor as exercising a very decided influence, or to aver that the principle on which we treat an aneurism in the ham or in the thigh with almost a certainty of success, may not be applicable to the management of a similar affection in a different locality. Yet such, I fear, is practically correct; and although other collateral circumstances must be taken into account, as contributing their share in the production of this unpleasant result, yet I believe the internal carotid artery will be found so placed as to afford a peculiar facility for the occurrence of these untoward complications, and that operations performed for the cure of aneurisms

* From the Dublin Journal for March.

of this vessel are attended with a degree of uncertainty scarcely to be expected elsewhere. In order to the correct understanding of this position, it will be necessary to say a few words on the manner in which an aneurism is cured by a ligature being placed on the trunk of the vessel, at the cardiac side of the tumor.

When such ligature is applied, it merely removes the impulse of the heart from the circulation through the vessel beyond it. The blood necessary to the nourishment of the limb or part at its distal side, is then conveyed thither by the anastomosing branches, which are generally too small to convey the impulse of the heart at the same time, and thus whatever blood enters the sac of the aneurism is no longer thrown in with a jet or *per saltum*. It thus can exercise no influence either on the fluid blood within the tumor, or on the elastic qualities of the sac or its coverings; it is allowed to remain quiescent within its cavity, and no portion of it is forced back into the general circulation again. So circumstanced, and at perfect rest, the natural tendency of the blood is to become coagulated, and the coagulum thus formed, being restrained by the sac and its coverings from extending itself in any other direction, is pushed towards the point where there is least resistance; that is, against the open vessel, which it compresses and causes to become obliterated, just as would happen to any bleeding artery under the continued pressure of a clot. In order, says Scarpa, that the compression may produce the union of the two opposite sides of an artery with each other, and at the same time the radical cure of the aneurism, it is necessary that, besides the vitality of the coats of the artery, the degree of pressure applied upon it be such as to place the two opposite parietes of the injured vessel in firm and complete contact, and that it be at the same time capable of exciting the adhesive inflammation in the proper coats of the artery. Without the concurrence of these circumstances the compression does not prove beneficial, or only produces an incomplete cure; for, whenever the compression is not sufficient to place the two opposite sides of the artery in complete and firm contact, and does not excite in them the adhesive inflammation, including also the root, properly speaking, of the aneurism, the canal of the lacerated or wounded artery remains open and pervious as before the use of the compression. If this view of the case be conceded (as probably it will), it must follow that any thing capable of disturbing the blood within the sac will interfere with the process of coagulation, and thereby delay, if it does not prevent, the cure; and that any condition or position of the sac which will allow the pressure of its contents to be directed otherwise than against the injured vessel, must have a similar effect. Either of these circumstances taken singly, may prevent the cure; when both are combined, success is scarcely to be hoped for.

When pulsation is observed to return in the aneurismal tumor in a short time after the application of the ligature, it is obvious that the great object of completely cutting off the impulse of the heart has not been attained; that blood, to a greater or less quantity, not only enters the sac, but that some is returned again from it, and that the blood within it is constantly disturbed, and therefore kept in a state unfavourable to coagulation. This phenomenon of the reappearance of pulsation, has of late years been frequently observed, and many of the causes that may conduce to it are now well known; some of them being of a nature entirely to prevent the cure of the aneurism, such as the existence of two large trunks in the limb, by an irregular arterial distribution, or where one or more large branches arise from, or otherwise communicate with the sac, and others which only delay the sanative process, but do not (at least necessarily) completely interfere with it. These latter are, firstly, the circumstance of the ligature being tied so loosely as not only not to stop the current of blood through the vessel, but not completely to cut off the impulse of the heart from the distal circulation; and what is of more importance, as bearing on the present subject, the existence of such an extensive and free communication by anastomosis as will convey to the tumor, by a circuitous route, the impulse which the ligature was intended to remove. I know not how far such a communication may be established in an aneurismal limb by a preternatural increase of size in the collateral vessels: such has been spoken of by authors, but I have no evidence of its existence in any one particular case to an extent sufficient to produce the phenomenon alluded to. However, I believe this unhappy condition obtains with respect to aneurisms of the external carotid artery in the neck, and that the free and extensive anastomoses through the vessels of the brain in their natural and normal state, will be quite sufficient, in some instances, as in the following case, to delay the process of cure; in others, perhaps, to prevent it.

On the 21st of August, 1829, I performed the operation of securing the trunk of the common carotid artery of the right side, in a woman of the name of Rourke, in the Meath Hospital. As this case has been already published in the

fifth volume of the Dublin Hospital Reports, I shall merely remind the reader of some facts in connexion with it, which it may be necessary to refer to hereafter. It was a case of aneurism of the carotid, of fifteen years' duration, consequently its growth had been extremely slow, and it might be reasonably inferred that the aperture leading from the artery into the sac was very small; it was firm, hard, and solid, containing scarcely any fluid blood, and, on examining the fauces, no pulsation could be observed within. The progress of this case was attended with some unpleasant consequences, such as a return of pulsation in the tumor in four hours after the operation, and suppuration of the sac; however, eventually my patient recovered, and left the hospital early in the following March, to resume her former occupation as a servant. She had never been a very healthy person, and was afterwards frequently an inmate of the hospital for pectoral complaints: however, at length she died on the 7th of September, 1836; and I may mention, as a singular instance of strength of mind overcoming the prejudices so constantly met with in persons of her condition, she bequeathed her body to me, and, by permission of the inspector of anatomy, it was sent to the school in Park-Street.

On examining the neck, it was recollected that, in the course of the operation, the sternal and a large portion of the clavicular attachments of the sterno-mastoid muscle had been divided, yet, during the remainder of life, the patient never seemed to experience any inconvenience or imperfection of motion in consequence. The condition of this muscle, then, first attracted attention. At the inferior part of the neck, and for two inches above the clavicle, there was not a trace of fibre remaining of the muscle, and its place was supplied by a dense and strong fascia attached to the clavicle below, and into which the remnant of the muscle was inserted above. In short, the inferior portion of the muscle seemed to have been converted into this fascia; on dividing it, the jugular vein and the ligamentous-like substance into which the artery had degenerated, were exposed.

The remnant of the artery exhibited one continuous and unbroken cord from the bifurcation of the innominata to the division into internal and external carotids, so that, although the vessel must have been divided by the separation of the ligature, it had united again, and the exact spot at which it had been tied could not be ascertained. The internal carotid also was obliterated up to the spot where the ophthalmic artery was given off within the skull. In close connection with this, was the remnant of the aneurismal sac, a small, firm, fibrous tumor, of an oblong shape, and nearly of the size and form of a very large almond; it lay a little below the posterior belly of the digastric muscle, and on the lingual nerve, to which it had some connexion, but not very intimate. The external carotid was pervious, but as compared with the vessel of the opposite side, greatly diminished in size, as were all its branches, excepting only the thyroid, which was pretty nearly of its natural dimensions. In consequence of the injection not being very perfect, the anastomoses were in general not minutely developed above the thyroid artery, but the communication between this and the branch ascending from the subclavian was extremely free, and the inosculations of these vessels within and on the surface of the thyroid gland very numerous, much more so than between the vessels of the opposite sides of the neck.

The subclavian on the right side was at least of twice the diameter of that on the left; the vertebral was enlarged in the same proportion; and the ascending branch of the thyroid was also increased in size. The chief external communication was between the ascending and descending thyroid arteries, which seemed to be the medium by which the external carotid and its branches were supplied: the quantity of blood formerly brought to the brain by the internal carotid, was afterwards furnished by the vertebral, which became enlarged throughout its whole course, until the formation of the basilar artery, after which the entire circulation of the brain was perfectly normal.

This dissection proves that in this case at least, the re appearance of the pulsation after operation, was caused by the free and extensive anastomotic circulation through the brain, and that without the slightest appreciable enlargement of the collateral vessels. The dissection was seen and examined by Dr. Hart, now Professor of Practical Anatomy in the Royal College of Surgeons in Ireland, and the preparation remains in the Museum of the School of Medicine and Surgery, Park-street. So far, then, it has been shewn that the locality of the internal carotid is unfavourable to the cure of aneurism by operation, by at least delaying its progress; I have now to shew how the same influence may prevent it altogether. But previously, it may be advisable to mention the leading particulars of a case in which such an unfortunate failure actually took place.

Matthew Markey, æt. 38, of low stature, and very strong make, admitted into the Meath hospital, on the 19th September, 1838, with a very large aneurism, occupy-

ing nearly the entire of the left side of the neck. It extended from about three quarters of an inch above the clavicle to the mastoid process, was bounded posteriorly by the trapezius muscle, and anteriorly it pushed the larynx considerably to the right side. The entire circumference of the neck over the most prominent part of the tumor, was fourteen inches and three quarters: from the thyroid cartilage across the tumor, to the spinous process of the fourth cervical vertebra, nine inches and a quarter: from the same points, the measurement on the opposite side amounted to but five inches and a half. Examined by the mouth, the appearances of the tumor were most alarming: the pulsation could be distinctly seen, and the blood almost felt under the mucous membrane; it seemed ready to give way, and burst into the mouth every moment, and so remarkable, and so urgent was this symptom, that on requesting my friend Dr. Graves, then the physician in attendance on the hospital, to examine this patient, I received a note from him, strongly pressing the necessity of immediate operation, lest such a catastrophe should take place. It is needless to detail the other symptoms; they were such as are usually observed, except that the tumor was very soft, the blood within it evidently fluid, and, of course, the pulsation extremely violent. This peculiarity might, in some respects, be explained by the history of the case.

The disease may be said to have existed but a few days. Only five weeks had elapsed, since he first perceived a small hard tumor, like a kernel, near the angle of the jaw, perfectly movcable, without pain, and (as he stated) without pulsation. In the course of ten or twelve days, it became uneasy, but not actually painful, and he poulticed it, in the expectation that it would suppurate and break: it, however, increased in size, although slowly, and occasioned a good deal of annoyance in the motions of the head. It had then become distinctly pulsatile. Only seven days before admission, while at work, and after exerting himself considerably, he was suddenly attacked with most excruciating pain darting from the tumor across the forehead, and towards the vertex. He was immediately obliged to quit his employment and return home, where he discovered that the tumor had increased in size to a surprising extent, and that it pulsated with great violence. He suffered dreadfully for the next three nights, not sleeping, or even being able to lay down his head. He was then attacked with hoarseness, which amounting at times to nearly a total loss of voice, alarmed him so much, as to cause him to apply at the hospital for relief, and he was admitted on the day above specified.

On the 22d September, the operation of tying the common carotid was performed. As the space between the tumor and the clavicle was extremely limited, I made a transverse incision at the root of the neck, parallel to, and above this bone, commencing internal to the superficial jugular vein, and extending forwards about two inches in length. Having thus exposed the sterno-mastoid muscle, I divided its clavicular attachment cautiously on a director, and came down on a very strong and resisting fascia, which, having slightly torn with the forceps, I also divided on the director. The edge of the sterno-hyoideus muscle could now be distinctly seen, which being carefully divided, I tore the sheath of the vessels partly with the nail of the fore-finger, and partly with the end of the director. The vessel was now exposed, and although the wound was deep, I could easily pass the needle I generally use, and of which I have given a description on a former occasion, round the artery, which was tied as tightly as I could draw the ligature. During the operation I experienced no inconvenience from the jugular vein: I might almost say I never saw it. I certainly saw the pneumogastric nerve, because I looked carefully for it; but the pleura did not rise up in the neck, as I have experienced on other occasions. Altogether there was much less difficulty in the operation than might be anticipated; the patient bore it well: was but twenty minutes on the table, and walked up stairs to his ward afterwards, refusing any assistance. On the ligature being tied, the usual phenomena occurred; the pulsation ceased in the tumor: it became diminished in size; and the patient declared himself relieved from pain.

I had mentioned in my clinical lecture on this case, that I anticipated a return of the pulsation in the tumor at an early period after the operation, and the suppuration of the sac at one more remote. In the former of these expectations I was disappointed; pulsation did not return, although the tumor remained soft, and its contents evidently fluid. As to the full extent of this assertion, however, there may be some exception taken. Mr., now Sir, Philip Crampton, who took a great interest in the case throughout, always said that he perceived a weak pulsatile thrill in the tumor; and on looking at it in profile, I sometimes saw, or fancied I saw, a slight motion corresponding with the action of the heart, like that which might be exhibited by a large swelling in the immediate vicinity of an artery; but

on examining it with the hand, I never could feel a distinct pulsation; if such existed, therefore, it must have been extremely weak and indistinct.

It is unnecessary to enter minutely into the details of this case, which at first appeared to progress as favourably as could be desired. On the fifteenth day after the operation the ligature came away with the dressings; and on Saturday, the 20th October, exactly four weeks after the vessel had been tied, I find the Hospital Report to be as follows: "Patient's health is now very good; he is up all day and walks about the grounds; sleeps well during the night; has no pain or uneasiness; the discharge from the wound daily diminishing in quantity, and assuming a more healthy character." But on Monday, the 22nd, matters began to assume a different aspect. He complained of pain and stiffness in the neck, with headache, furred tongue, and general constitutional derangement. The sac had begun to inflame. On Saturday, the 27th (five weeks after the operation), "the pain and stiffness in the neck had greatly increased; the skin tense and shining, of a deep red colour over the centre of the tumor, more faint towards its border; the apex soft and elastic, with a distinct sense of fluctuation: he described the pain as being most excruciating, and of a hot and throbbing character. He had intense headache; foul tongue; bowels obstinately costive; pulse 96, hard and full. He also suffered from constant cough, difficult respiration, and painful deglutition. The sac had suppurated, but as this was an occurrence which had frequently taken place in my experience before, I acknowledge it occasioned me little uneasiness, and I prepared to treat the case in the manner I had treated others with uniform success.

I made a free incision into the tumor with a view to discharge the matter, turn out all the coagula, and then, by applying pressure externally, seek the obliteration of the sac. The incision gave exit to a large quantity of pus mixed with *fluid blood*, and I found I had opened into a large cavity which scarcely contained any coagulum at all. I laid down the sides of the wound, and endeavoured to apply pressure by means of compresses retained by numerous straps of adhesive plaster. This latter indication, however, could not be accomplished. Direct pressure caused an intolerable sense of suffocation, and the consequence was, that under the moderate degree employed, the sac suppurated freely, and the discharge became profuse. Still I imagined I had no cause for apprehension beyond the wearing and wasting hectic that would probably be established; and was therefore surprised at being called at 3 o'clock on the morning of the 30th, with information that my poor patient was bleeding profusely from the wound I had made in opening the abscess. I hastened to the hospital, and found him literally bathed in blood; and, notwithstanding the exertions of a most active and intelligent pupil who was resident there at the time, he must have lost between forty and fifty ounces. The bleeding was kept under by the pressure of this gentleman's hand, but immediately on its being removed, the blood spouted forth with considerable force. On examining the cavity, with the aid of a very imperfect light, I discovered several streams of arterial blood passing in different directions through a broken clot at the bottom of the sac, and my first impression was, that some branches opened into and communicated with the cavity; and as the man must have died of hæmorrhage, whilst I should be endeavouring to secure these I determined on trying to place the patient in the same condition as if the sac had never been opened, and trusting to the pressure of the coagulated blood for the suppression of the hæmorrhage and the obliteration of the vessels. I therefore passed four needles through the lips of the wound, and applied the twisted suture, which held them firmly together, and effectually stopped the bleeding, and I left my patient safe for this time, but pale, weak, sunken, and evidently unable to bear the loss of more blood.

Friday, the 2nd October. The blood burst out again, welling up profusely from the bottom of the wound, but coming without impetus. As I had now the advantage of the assistance of my colleague, Mr. M. Collis, I determined to explore the cavity, with the view of securing the bleeding vessel or vessels, and if possible preventing any further loss of blood. I opened the full extent of my incision, and began to clear out the cavity, when the blood burst forth in a stream, equally frightful and uncontrollable, flowing from a rent in the vessel that my finger could not cover. In this predicament not a moment was to be lost. The patient had lost so much blood that a single minute would probably decide his fate. As for seeking to tie a vessel lying at the bottom of an enormous cavity, and fully at a distance of five inches from the surface, it appeared to be wholly out of the question; and the vicinity of the pneumo-gastric nerve and the deep jugular vein rendered a plunge of the needle or the employment of the actual cautery equally objectionable. I had no resource but to fill this enormous cavity with compresses of sponge, which should be maintained in their places by closing the integuments over them, and this latter could only be effected by means of needles and the twisted suture. Straps

of adhesive plaster were totally useless; glue spread on leather was tried, and found equally inefficacious: nothing remained but to stitch the wound in the manner specified, and it certainly had the effect of perfectly restraining the bleeding for the time being. However, I knew that there could be no permanent benefit derived. I knew from the examination I was enabled to make, that the blood proceeded from the original aneurismal rent, that the artery which was not affected by the usual process of nature during the five weeks that intervened between the operation and the suppuration of the sac, would scarcely become obliterated under the pressure of the sponge, and that the needles must ulcerate the parts and cut their way out long before any permanent benefit could be achieved. Immediately on the wound being perfectly closed, the pulsation, which had disappeared, or been so weak as to be only perceptible to the most delicate touch, returned in the tumor as vividly and as violently as before the operation had been performed at all.

It would be tedious to dwell on the minute reports of this awful and melancholy case; suffice it that the patient still continued to bleed at intervals. According as a needle would separate, or a compress be disturbed, blood would burst forth with greater or less violence, and although the hæmorrhage was always promptly restrained, yet these successive losses, in conjunction with pain, loss of sleep, and extreme anxiety, reduced him so low, that he expired, without a struggle, on the evening of the 12th October—having lived thirteen days from the first appearance of the bleeding. Every effort was made to procure a *post mortem* examination, but in vain; and I have been left to speculation to account for the singular phenomena and unexpected results that attended this most interesting and important case. But it is not altogether without a parallel; and, after some research, I have discovered a case which will throw additional light on these cases of aneurism of the carotid artery.

[To be continued.]

POISONING WITH OPIUM.

To the Editor of the Medical Gazette.

Sir,

Notwithstanding that the subject of poisoning by opium and other narcotics has been so ably and frequently treated of by eminent authors, and as there is, I fear, too great a tendency in medical practitioners to form an unfavourable prognosis after having, in such cases, used the stomach-pump and emetics without the desired effect, I am anxious, with your permission, to make a few additional observations concerning the mode of rousing patients, upon a principle which, although it may have been occasionally, but obscurely, hinted at, has not, I conceive, been sufficiently insisted upon; and this is, continued novel, or alternate impressions upon the nervous system, both through the medium of that great centre of nervous communication, the stomach, as well as that of the external surface generally, and which I should recommend in all cases of poisoning with narcotics.

As I cannot, therefore, but think, sir, that many cases have been given up by not attending to this simple, but important, point, I trust that my interest in the welfare of society will be a sufficient apology for thus obtruding myself on the notice of the medical public through the medium of your widely spread journal.

Now, this novelty of impression, as I term it, may be produced by any means which may appear to the practitioner most appropriate at the time; but the mode which I consider, and have found the most ready for producing this effect, is alternation of impression, with hot and cold water, and at different parts of the surface of the body.

I am well aware, sir, that Drs. Christison, Paris, and Beck, recommend cold water to be dashed over the head, chest, &c. Dr. Paris says it rouses the energy of the brain*. (See their works on Medical Jurisprudence). Dr. A. T. Thomson (see his Conspectus) recommends the use of the warm-bath.

Sprinkling the chest and back of the patient with cold water while in the bath has also an excellent effect in rousing the system; yet even these, in a short time, the relations remaining the same, lose considerably their influence, as I have myself proved; and, for this reason, is it that I am anxious, lest, by attending literally to the particular remedies recommended by these excellent authors, the principle of alternate impression, which ought to be insisted upon, should be lost sight of.

Besides, it frequently happens that a warm-bath (particularly amongst the poor) cannot be procured; how, then,

* It is also considered useful to assist the action of emetics.

can we well supply its place, unless we bear in mind the principle upon which it is used? and this I apprehend to be threefold, viz., to rouse by general impression, to restore or increase animal heat, and to determine the blood to the surface, in order to assist in relieving, if possible, the congested state of the lungs, and right side of the heart, produced by the state of coma which narcotics induce*.

Now, I consider that these indications may be fulfilled by the judicious use of warm and cold water. It must be evident that we fulfil all three at once by placing the extremities in warm water, and by passing a sponge dipped in the same over the shoulders, chest, back, &c. (this should be as hot as the hand can bear it); but the first indication, which is the grand object, viz., to rouse, is mainly answered, and the effect increased, by a sudden change of impression produced by dashing the face with, or passing a sponge, dipped in cold water, over the head, chest, &c. as soon as we find the first or warm impression, of which we can fairly judge by the crying, groaning, or inspiration of the patient, go off; or, in other words, when the nervous system is no longer cognizant of it. Cold water, indeed, should occasionally be dashed over the face, &c. in pretty large quantities with the hand.

While we are thus endeavouring to rouse the patient by external means, we must not forget, of course, those which are commonly used internally, as weak acidulous fluids, diffusible stimuli, &c., and even these I consider it would be better to vary upon the same principle, as *e. g.* strong coffee, then weak vinegar and water, ammonia, &c.

I think these observations may be sufficiently illustrated, sir, without troubling you with more than the two following cases:—A poor woman administered to her child, under two years of age, between the hours of 6 and 7, A.M., a tea spoonful of laudanum instead of tincture of rhubarb, which she had been in the habit of giving it for prolapsus ani. Fortunately, she discovered her mistake before she left home to go to work, and sent immediately for the parish surgeon, who arrived at about seven, and administered an emetic, which not operating as he wished, he gave another. This dose had the effect of evacuating the stomach; but, as I afterwards learnt upon inquiry, with scarcely any trace, by smell, of the existence of opium. After leaving directions to keep the child moving he left the house, with the following observation: "No man can save that child; and as you have got into it, so you must get out of it as well as you can*."

The friends (for the mother was in too distracted a state to render any assistance) moved the child about, and shook it for two or three hours; but finding the stupor continue, they abandoned all hope, and laid it down upon its bed, as they thought, to die.

The mother, whom I had formerly attended, insisted that I should be sent for, notwithstanding the resistance on the part of the friends after the surgeon's remark. They accordingly sent to me, and I arrived not however until after eleven o'clock, A.M.

When I entered, I found the child lying on its bed, breathing stertorously, and the colour of the face changing to the livid. They told me it had been lying there about half an hour. I caused it to be placed immediately in a warm bath, and to take alternately weak vinegar and water and strong coffee, at the same time bathing the head with cold water. All these means at first roused the child, and made it cry, but I found that their effect soon went off. The back and chest were then sprinkled with cold water, which acted at first powerfully, but again the little patient soon relapsed into its former state of stupor. It was now taken out of the water, and placed upon the knee of one of the attendants, when the sudden impression of the cold air upon the whole surface at once was quite sufficient to rouse it. This effect, however, not continuing long, upon re-immersion in the warm bath, it cried out, and showed clearly the efficacy of *alternate impressions*. Having now

* Hence the great use, in such cases, of causing patients, if we can, to respire frequently.

Artificial respiration, where it could be effected, would, for this reason, be also valuable in extreme cases; as a proof of which I would refer my readers to some interesting experiments of Sir B. Brodie, in the Phil. Trans. of 1812, (see also Beck's and Christison's Medical Jurisprudence,) in which the circulation was maintained by artificial respiration after the natural respiration had been suspended by the action of narcotic poisons, until their baneful influence upon the sensorium had passed off, and the sensibility and consequent natural respiration were restored.

* I take particular notice of these words, without wishing to make an unkind observation concerning any practitioner, but only to show how readily patients are, by some, considered to be beyond relief; and, be it observed in this case, it was even after the operation of an emetic.

satisfied myself of our power to rouse the child, I left the house, with directions to continue this sort of treatment at intervals of an hour or two; as, *e. g.*, using friction; dressing it, and giving it exercise, together with the warm bath, two or three times in the day if necessary, and continually to administer internally some of the fluids above mentioned at intervals. I saw this patient again in the afternoon; it was still drowsy, but better. I desired the friends to continue the treatment, and bring the child to me in the evening; which they did, perfectly recovered*.

The other case was that of an elderly female, (she might be about fifty,) who, having suffered domestic trouble, took laudanum, with the intent to commit suicide, in the following manner: Between seven and eight o'clock in the evening, she went out and bought two penny worth (as she said) of laudanum, which, as soon as she was out of the shop, she swallowed. She then went to another shop, and bought three penny worth, which she made use of in the same way. She afterwards went to a third shop in the neighbourhood, and bought two penny worth more, but paused a few minutes before taking it, and conversed with some acquaintance whom she met; but as soon as this person left her, she took the remaining dose, and returned home, keeping what she had done a secret from her family. At length, however, her son, perceiving something singular in her manner, began to converse with her about herself; and, finding him importunate, she confessed that she had taken opium. He then went for medical advice, but could not procure assistance until ten o'clock, when two medical attendants arrived, one soon after the other, and tried the stomach-pump, but did not bring away any thing that at all satisfied them as to the presence of opium.

Finding her now in a state of great stupor, two persons were employed to shake her whilst sitting in her chair; but with little effect. One of these gentlemen then came to me, requesting my assistance. I attended immediately, but did not arrive until past eleven o'clock, P. M., when I suggested that her feet should be put as soon as possible into hot water, and the head, neck, back, and chest, sprinkled with cold water, together with acidulous fluids, ammonia, &c. to be given internally. When I found that these means were losing their influence, I directed the feet to be placed in cold water. This, as might be expected, produced a powerful effect; but it should be particularly observed, that the feet ought not to be allowed to remain above a few seconds at a time in the cold, for the reasons mentioned above in speaking of the use of the warm bath; they were consequently soon replaced in the bucket containing the warm water. After persevering in this plan for rather more than two hours, the patient recovered so far as to converse a little. I then directed that she should be wiped dry and rubbed, still continuing the fluids internally, and that if she was found to relapse at all to bathe her again; but in a short time she was so far cognizant as to insist upon being placed by the fire, and soon after went to bed. I may add, that perhaps a little is due to the fact, that some of the fluids, given internally with a large spoon, having gone the wrong way, made her cough, and this assisted the respiration.

I trust, sir, that these two cases are sufficiently illustrative of the power which we gain by such a plan of treatment, and of the utility of making it public, (not to mention its simplicity,) since in the first of these two cases the practitioner had no hope, and, in the second, one of the attendants thought proper to call in farther assistance*. Besides, I would remark, that although occasional rousing by physical force, or shaking, may be useful, it requires great exertion on the part of the attendants, which may be difficult to procure, and is also very fatiguing and painful to the patient; and which, if not continued most unremittingly, is, I am inclined to think, apt to confirm the stupor rather than relieve it. A further apology, sir, for having occupied so much of your valuable space, when we may save a few lives, is, I feel assured, unnecessary.—I have the honour to be, sir,

Your obedient servant,

THEODORE S. G. BOISRAGON, M.D.

5, Princes-street, Hanover Square,
Feb. 26, 1840.

* Obs.—This practice should be continued, according to circumstances, from three to twelve hours. (See Christison's Medical Jurisprudence.) The patient should also be occasionally roused, even when he may be allowed to sleep, in order to be sure of his recovery.

* I may also mention, (to show, how even well-informed persons may lose sight of the principle here inculcated,) that the other medical attendant at this last case exclaimed, when he saw what I was doing, "That is Christison's plan, is it not?"

ON HOMŒOPATHY.

To the Editor of the Medical Gazette.

Sir,

You have often endeavoured to entertain your readers by ludicrous accounts of homœopathy, but your attacks have never been founded on trials, made either by yourself or your correspondents.

I should not attempt to disturb the tranquillity your opinion of the old system allows you to enjoy, were it not that the letter of Mr. Smith, in your last number, ought not to pass unnoticed.

In the first place, I fully agree with Mr. Smith, when he says that his former letter has done good; for all such feeble attempts to decry the labours of one of the greatest men that ever adorned the profession, only defeat the object for which they are intended, and on this account an opponent, such as Mr. Smith, is our best friend.

But I deny Mr. Smith's right to criticise homœopathy, simply for the reason that it is evident he has never tried it. Now, sir, you will, I imagine, admit that before a man sets himself up as a judge he should possess some knowledge of the subject in dispute. This Mr. Smith has not deemed requisite, as his arguments, which are now fully forty years old, prove his utter ignorance not only of the principle upon which homœopathy is founded, but also of the fact that a remedy administered to a patient labouring under symptoms which that medicine, when taken in the ordinary quantity, is capable of exciting, must be given in a very minute dose.

Your correspondent is not aware that many of the homœopathic remedies are totally inert until prepared by trituration or succussion, and that, by this process, which they all undergo, *electricity must necessarily be developed.* This, combined with the power inherent in every medical substance, explains the action of the infinitesimal doses we find it advantageous to employ, in order to cure "cito tute et jucunde," always bearing in mind that we are acting directly on the diseased part, which is infinitely more susceptible than the healthy structure.

I am borne out in this view of the modus operandi of the homœopathic globules, (which I published two years ago,) by a celebrated French chymist, Monsr. Peltier, who was opposed to homœopathy, and who, in a paper read before the Académie des Sciences, in Paris, in Jan. 1839, expressed himself in the following terms:—Or c'est celle-ci (l'électricité statique) qui se recueille, s'accumule, et se garde sur les corps isolés, et comme elle se fixe en raison des surfaces, plus ces surfaces sont multipliées par la trituration, ou une désagrégation quelconque, plus la dose d'électricité est considérable. Cette manière d'agir de l'electricité statique rend parfaitement compte de l'énergie des globules homœopathiques."

This explanation does away with the necessity for the calculation Mr. Smith's clerical friend has taken so much pains to make: I may, however, add that, as a few ounces only of spirits of wine are employed in making the dilutions, his "pyramids" must be infinitesimal.

In conclusion, the best advice I can give Mr. Smith is, that before he again ventures to write down homœopathy he obtain some slight knowledge of the system to which many hundreds of medical men are devoting all the energy of their minds.

As you profess to conduct your journal, (the merit of which is generally admitted,) on equitable principles, I cannot suppose you will refuse insertion to these remarks. In matters of science, more especially, candour and sincerity should form the basis of discussion; and if you admit articles against homœopathy, in common justice you are bound to publish a reply.—I have the honour to be, sir,

Your obedient servant,

Harris Dunsford, M.D., M.R.C.S.

28, Somerset-street, Portman-square,
Feb. 26th, 1840.

[Having thus given immediate insertion to Dr. Dunsford's reply, we may be permitted to remark, that we are utterly at a loss to make out a single point of his opponent's which it refutes, or of his own which it establishes.—Ed. Gaz.]

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'Alembert.

On the Diseases of the Bladder and Prostate Gland. By William Coulson, Esq. Surgeon. 2d edition, with Plates.

Mr. Coulson's work is one of a class becoming every day more numerous and more necessary—viz. works of diffusion,

moderate in cost, and popular in style, expounding in a familiar manner the results of scientific research, and of professional and personal experience, so far as these results and that experience have been found to throw any important light on the pathology or on the cure of disease.

Mr. Coulson's range of remark has accordingly, in this enlarged edition, as in the former, been limited to questions of practical utility and importance, to the exclusion of speculative matter. In the former edition of this work the author treated of the bladder alone, and in ten chapters: in this edition he has added three chapters on the prostate gland, and has besides added two other chapters, viz. on the urine, and on spasm of the bladder.

In the first chapter, which is new, and treats at considerable length of the urine, the author describes the sensible, chemical, and physical properties of that fluid; its normal characters and composition; its morbid changes, with their characters and adventitious elements; the causes internal and external that modify the fluid; and the diseases indicated by its principal modifications; the remedies most useful in correcting its various aberrations from the standard of health; and, finally, the processes best fitted for detecting unusual ingredients in it, and for distinguishing from each other its more important morbid conditions.

In the second chapter the author handles irritability of the bladder, its causes, signs, and remedies, amongst which, as in his former edition, he especially recommends the diosma crenata.

The third chapter treats of palsy of the bladder; the fourth and fifth, of inflammation, acute and chronic, of the mucous membrane of the bladder; the sixth and seventh, of inflammation, acute and chronic, of the muscular coat of the organ; and the eighth, on inflammation of the peritoneal coat and surrounding cellular tissue. The ninth is a new chapter, and treats of spasm of the bladder; this affection, respecting which doubts have been entertained by several authors, Mr. Coulson proves satisfactorily to exist, from physiological and practical data. The tenth chapter treats of fungus hæmatodes of the organ, and cancer. The eleventh is on urinary calculus, its composition, symptoms, causes, mode of formation, and treatment, including an account of the use of the sound, and of the operations of lithotomy and lithotripsy; and he concludes the chapter with observations on foreign bodies not calculi, found in the bladder.

The author's method of operating for stone seems to us to differ in no important point from that usually adopted in our hospitals, and most generally approved. His account of the new operation of lithotripsy, which he seems not to have adopted in his own practice, does credit to the author's good sense and liberality of feeling. He fairly states the high advantages of the operation, when practicable; and at the same time points out, without prejudice or partiality, the limitations and exceptions by which its utility is circumscribed.

The author's twelfth chapter treats of wounds and injuries of the bladder. The author then devotes three chapters to the prostate gland, treating in succession of acute inflammation, chronic inflammation, and calculi of the prostate.

We have thus given a summary view of the course taken by the author in traversing this important field of pathology and practice; and it may be inferred from our sketch of his plan and method of handling his subject, that as his professed end in undertaking the work was the diffusion of important practical information, so the execution of his task has been on the whole such, that his volume is well fitted for the purpose for which it was intended. His descriptions are usually condensed and rapid, but at the same time clear and satisfactory; his illustrations are apposite and effective; his criticisms of opposing authorities candid and discriminating; his style is popular and easy, without any neglect of necessary precision. Altogether the work may be pronounced a correct and instructive popular account of our scientific knowledge and practical resources regarding the diseases of the bladder and prostate gland, drawn up by a man of learning and judgment, a medical practitioner of experience, and an able surgeon.

An Atlas of Plates illustrative of the Principles and Practice of Obstetric Medicine and Surgery: with Descriptive Letterpress. By Francis H. Ramsbotham, M.D. &c. Churchill, 1840.

The press teems with works of one kind or other connected with midwifery,

and this circumstance is a strong proof of the greater attention which is paid now than formerly to this branch of the healing art. Among the numerous claimants to attention, however, on this point, we know none that is more entitled to favourable notice than the atlas of plates which lies before us. There is so much in this branch which cannot be understood without pictorial delineations, that they become almost essential to the student; but hitherto the expense has proved an impediment to their being employed so much as would be desirable. The work before us, however, is decidedly the cheapest of the kind which has ever fallen under our notice—six really-good engravings, and several woodcuts, with a couple of sheets of excellent letter-press, by Dr. F. H. Ramsbotham, being given for eighteen-pence! The work is to be completed in twelve numbers, and we are certain has only to be known in order to render the demand for it very extensive.

On the Anatomy of the Breast. By Sir Astley Paston Cooper, Bart. F.R.S. D.C.L. G.C.H. Serjeant-Surgeon to the Queen, Consulting Surgeon of Guy's Hospital, Member of the National Institute of France, &c.

[Continued from page 854.]

We now, in continuation of our analysis, turn our attention to the internal structures of the breast; the parts which enter into the composition of this being the fascia mammæ — the lactiferous tubes—the glandules—the milk-cells—the arteries, veins, absorbents, and nerves; lastly, the fat and cellular tissue.

The fascia is divided into two layers. "The anterior or superficial layer passes upon the anterior or cutaneous surface of the breast: here it forms a fibrous covering, but not a true capsule, spread upon the surface of the gland, and passing between the gland and the skin; but it also enters the interior of the secretory structure. Here it sends out two sets of processes of a fibrous nature from its own surfaces. Anteriorly, large, strong, and numerous fibrous or fascial processes, to the posterior surface of the skin which covers the breast, into the substance of which it is received, and with which it is incorporated. It is by these processes that the breast is suspended in its situation, and I shall therefore call them the *ligamenta suspensoria*. By these processes, the breast is slung upon the fore-part of the chest, for they form a moveable but very firm connexion with the skin, so that the breast has sufficient motion to elude violence; yet by this fibrous tissue it is, excepting under age, lactation, or relaxation, prevented from much change of place. The ends of these ligaments are spread out and incorporated with the posterior surface of the skin, and give it its whiteness and firmness. When raised and dried, the preparations of these ligamentous processes form a curious, irregular surface of folds, between the skin and the mammary gland. They are seen in a section of the breast, spread out and lost upon the inner surface of the skin at their anterior extremities. When the breast is placed in its natural position, the posterior extremities of the ligamenta suspensoria are spread over the fore-part of the gland, support numerous folds of the glandular structure, penetrate the substance of the organ, and everywhere connect the portions of glands to each other. A process of this fascia proceeds to the nipple, surrounding the ducts which are contained within it, and it becomes the principal and very powerful connecting medium between the gland and the nipple, so as to prevent this latter important part from being separated from the breast by violence. Between the ligamenta suspensoria, the lobes of fat are placed, which serve to defend this organ from injury. The uses of the ligamenta suspensoria are to connect the nipple to the breast, the breast to the skin, and to fold up the gland to increase the secretory organ, without spreading it more widely over the surface of the chest. They also enclose the adipose matter of the breast. Whilst the anterior or superficial layer of fascia is thus spread over the anterior surface of the breast, the posterior or deeper seated layer, when it has reached the margin of the gland, passes behind it, and sends forth two layers of fibres. The anterior of these fibres pass on the back of the gland, sending processes of fascia into the organ to unite its parts, and other fibres which pass from one ridge of the gland to the other posteriorly, giving it a smoother surface than that of the anterior part of the breast, as it is not folded in the same manner.

The other fibres of this deeper seated

fascia pass backwards, and are united to the aponeurosis of the pectoralis major. Thus, then, the breast is supported by the two portions of fascia; the superficial layer connecting it to the skin anteriorly, and forming the ligamenta suspensoria, and the posterior layer of fascia joining it to the pectoral muscle, by its aponeurosis; and between these two processes it swings, and yields to pressure and to violence. Whilst the fascia thus affords support, it also firmly unites the different portions of the gland to each other, throughout the whole of the substance of the organ, by entering into its interior composition."

The first part to be described in the secreting structure of the breast is the *straight* or *mamillary tubes*.

"When the nipple is examined with attention, in a woman whose breast is not in a state of lactation, the papillæ which cover its sides to its apex form petals, like those of flowers, which reach to, and overlap, a part of the apex; and between them, on the apex or point of the nipple, may be observed a cleft, in which the orifices of the lactiferous tubes are closely huddled together. But during lactation, when the cone is reversed, and the papillæ are everted, the orifices of the lactiferous tubes are placed upon the truncated surface of the apex of the nipple. The greatest number of lactiferous tubes I have been able to inject has been twelve, and more frequently from seven to ten. But the greatest number of orifices I have been able to reckon has been twenty-two; however, some of these might have been follicles only, and not open ducts. I have had delineated two preparations of straight tubes, in one of which I found thirteen, and in the other twenty-two. Their size also varies; for some of the orifices and straight tubes are much smaller than others, some only admitting a bristle, whilst others are as large as a common pin. They commence in a cribriform surface formed by the skin, with some mixture of fibrous tissue; so that these orifices do not increase much, or yield to the pressure of the milk. A probe of large size will pass to their orifices, if introduced from the gland, but it cannot be made to escape through the orifice of the duct, without employing great force to overcome the resistance, and even to lacerate the orifice; in that respect resembling the urethra in the female, which will admit the little finger from the bladder, but only a probe at its orifice."

The *areolar* portions of the tubes, or *reservoirs*, are next described as follows:—They "begin at the basis of the nipple, extend under the areola, and to some distance into the gland, when the breast is in a state of lactation. Their greater size than that of the mamillary tubes is in part owing to the loss of the pressure of the nipple, but principally to the number of branches of milk tubes which enter from the breast; five or six large branches are combined in a reservoir. These receptacles are of a conical form, like the mamillary tubes; and they begin from the extremities of the larger branches of the milk tubes, and terminate in the straight ducts of the nipple. The appellation of reservoir is less applicable to this portion of the ducts in the human subject than in other animals, as they retain less milk; but even in the human female, these large and numerous cavities will in their assemblage contain a large quantity of milk. In the cow, the mare, the goat, the ewe, the deer, and the rabbit, the reservoirs are very large, and in the cow particularly they are of enormous size, so as to be able to retain at least a quart of milk or more, depending upon the size of the udder. In the human subject they generally radiate from the nipple, although some of them pass directly backwards to the posterior or pectoral surface of the gland. Their calibre is out of all proportion larger than that of the straight or mamillary tubes, and much larger than that of the milk tubes which form their continuations. When cut open, the reservoirs are found to be lined with a very vascular mucous membrane, like the mamillary or straight ducts, but they have a fibrous coat upon the outer side of this, which preserves their form, and which gives them their power of resistance to the great dilatation which the milk would otherwise produce. The blood vessels, which supply them with vascularity, are derived from the retrograde branches of the arteries of the nipple, and from the deep seated arteries of the breast, which rise to meet them. The use of these reservoirs is to supply the immediate wants of the child when it is first applied to to the breasts, so that it shall not be disappointed, but be

induced to proceed with sucking until the *draught* be produced, when it receives a stream of milk from the lactiferous or milk tubes by a vis a tergo."

Next come the *mammary, lactiferous*, or *milk tubes*:—

"They divide into branches, which increase in number as they proceed from the centre to the circumference; and their general appearance when injected resembles that of the root of a tree. The radiations of one of the mammary tubes sometimes occupy from one-sixth to one-fifth of the circumference of the breast. On the sternal and clavicular aspect of the breast, a single duct radiates to the margin; but upon the axillary and abdominal aspects, two or three ducts ramify to the circumference of the gland, so that two or three ducts are placed upon each other. From this cause arises the greater thickness of the lower and outer parts of the breast, which enables it to form the cushion upon which the cheek of the child reposes. To this circumstance I have before alluded, and it shows by what simple means nature effects the most important purposes. The branches of the ducts do not radiate equally to the circumference, for some are much longer than others, and are lost on the fascia which encircles the breast, rendering its margins unequal. In other parts the ducts at the margin of the gland are turned upon the gland, so as to form a kind of hem at its circumference, and to produce also a thickening of the substance of the breast from this cause. Many of the mammary tubes upon the anterior surface of the breast are turned forwards to the skin, and connected to it by the ligamenta suspensoria; so that in removing the skin from the fore part of the breast, many of them are necessarily divided. The breast is not formed into regular lobes by the ramifications of the ducts, because they ramify between, and intermix with each other, so as to destroy the simplicity and uniformity of their divisions. The most simple idea which can be formed of the mammary ducts, especially at the lower and outer part of the breast, is, that supposing them to resemble the roots of trees, as they do, that one root is growing between others, destroying regularity and distinctness of their growth. Or suppose one hand applied upon the back of another, and the fingers introduced between each other, and then the fingers of one hand inclined to the right, and those of the other to the left, it conveys the idea of the above-mentioned intermixture. On the posterior surface of the gland, the ducts ramify more smoothly and equally, and pass in more regular ramifications to the gland, which is here much smoother than it is anteriorly. The mammary ducts do not communicate with each other, as is easily shown by throwing injections of different colours into the ducts, or by injecting one duct only. If various colours are thrown into each duct, they proceed to the gland without any admixture of colour. If one duct be most minutely injected with quicksilver, it does not escape into any other. And this remark is also applicable to the mammary glands of other animals, where there are many, as in the hare, the bitch, and the pig; the ducts are separate and distinct from those of the other gland."

"*Of the Gland.*—The mammary ducts begin directly from the glandular structure, in very fine and minutely divided radiated branches, and after becoming larger and larger as they approach the areola, they terminate in the reservoirs. The gland is constituted by the union of a number of glandules, which are connected by means of the fibrous or fascial tissue of the gland. When injected and unravelled they appear of considerable size; but when further examined, these larger bodies are divided into small glandules. Between these glandules, the mammary tubes may be observed to ramify, and from these bodies their branches directly spring. When these glandules are filled with injection, and for a long time macerated in water, and unravelled, they are found to be disposed in lobuli; and when a branch of a mammary tube is separated, with the glandules attached, the part appears like a bunch of fruit hanging by its stalk. The body of the gland is formed by the union of these little glands, everywhere interspersed through it, and united by fibrous tissue. Their size depends upon the state of the breast; after puberty they exist, but are not easily separated or unravelled. In lactation they are large, may be minutely injected, and distinctly developed. In age they diminish gradually, and after a time disappear, leaving the ducts still distinctly ramifying, but without the true glandular structure. On the anterior

surface of the breast, the glandules are drawn towards the skin by means of the ligamenta suspensoria, and form folds or loops which resemble the petals of flowers, as, for example, the rose, when unfolded. Upon these folds of the ligamenta suspensoria, the glandules are seen injected. By this disposition of the glandules, the surface for secretion is greatly increased, whilst the space which the breast occupies remains the same in regard to its circumference. This formation of the gland also renders it more prominent, and the nipple, consequently, of easier access to the lips of the infant. The margin of the gland is extremely irregular; for it forms numerous processes, which proceed into the surrounding fibrous and cellular tissue. The lower and outer part of the gland, viz., the axillary and abdominal aspects, are some of them folded upon the anterior, and some upon the posterior surface of the gland at its edge, giving it there additional thickness, and assisting in forming the cushion already mentioned. Also at the lower and outer part of the gland, the number of ducts and glandules is greater than elsewhere, and they are placed one before the other, so as to give to the gland great additional density. The posterior surface of the breast is not folded and looped up like the anterior; but the ducts and glandules are, in the larger part of the surface, disposed in ridges connected by a fibrous membrane, which mats them together, and enters between the ridges into the interior of the gland. The breast then is made up of an assemblage of glandules united by a fibrous tissue, and is therefore called conglomerate, because it is constituted of a number of glandules conglomerated together. When put into boiling water, the best idea of its form is obtained, as, like other albuminous structures, it becomes hardened, so as to be easily preserved: the nipple will then be seen to be not exactly in the centre of the gland. From the nipple, the gland begins to form little petals, like those of a blooming rose, and they are turned forwards to the skin, to which they are connected by the ligamenta suspensoria; and in the depressions between them, the fat is lodged. On the clavicular and sternal edge, the disk of the gland is very irregular in the length of its radii from the nipple, some parts projecting much further than others; but on the axillary and abdominal margin, the gland is turned upon itself at its edge, and forms a kind of *hem*. The posterior surface of the gland is smoother than the anterior, and forms a number of rows, and the depressions between them being less, there is not so much fat deposited as on the anterior surface of the gland. The glandules vary in their size, from that of the head of a pin to the bulk of a small tare, when the breast is in a state of lactation."

"*Of the Milk Cells.*—When the lactiferous tubes are minutely injected, they are found to proceed from each glandule, and when an injection is made of the glandules with quicksilver, sise, or wax, they will be seen to be composed, in their interior, of numerous cellules, which are the milk cells. Their number is very great; it varies much, and it would, therefore, be an act of folly and inutility to endeavour to reckon them. The glandules themselves differ in their size, and therefore the number of the cells will be proportioned to the magnitude of each glandule. Their size in full lactation is that of a hole pricked in paper by the point of a very fine pin; so that the cellules are, when distended with quicksilver or milk, just visible to the naked eye. They are rather oval than round, being slightly elongated where the branch of the lactiferous tube springs from them; but they appear more rounded to quicksilver, and when distended with milk, than when filled with wax. When well injected and dried, the glandules form a kind of foliage in the breast, and each leaf is filled with these cellules. In the fulness of lactation, these leaves are full of cells, which can be readily injected and demonstrated; but at other periods they do not admit of being filled, and a most minute injection may then be made of the lactiferous tubes, yet no cells appear. In one of the plates these cells will be seen injected with quicksilver, and magnified four times; but in the same plate they are seen injected with yellow wax, and magnified six times, to render them easily demonstrable. The lactiferous tubes I have seen become cellular as they spring from the milk cells, but only just at their commencement, and under very minute injections. The cells are lined with a continuation of the same mucous membrane as that which lines the inner surface of the lactiferous tubes. Of this I judge by mi-

nute injections of the arteries, where the inner membrane is seen to possess the high vascularity of a mucous membrane, rather than the minor arterial supply of a serous surface. Also in the larger animals, as in the cow and the rhinoceros, the mucous membrane, lining the ducts, has no break in it, but may be seen continued so far as the parts can be traced by the eye, and by magnifying powers*. The milk cells possess a considerable degree of elasticity, but in the human subject less than in other animals."

Sir Astley next proceeds to speak minutely of the common organization of arteries, veins, &c. which scarcely admit of much novelty in description, and we shall not, therefore, give any of the details, reserving what farther our conscience will allow us to extract till next week, when we shall refer to the changes produced on the breast by gestation.

MEDICAL GAZETTE.

Friday, March 6, 1840.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

MEDICAL DEGREES.

In our Notices to Correspondents, some months ago, we acknowledged the receipt of a letter, signed "M. D. Erlangæ," and intimated that it would probably be made use of at some future opportunity†. We had spoken, on a former occasion, with some irreverence, of Erlangen degrees, and our correspondent, with a true chivalrous spirit, then immediately drew his pen in behalf of his Bavarian *alma mater*.

In this second letter he repeats his defence of Erlangen, but, curiously enough, does not repeat his defence of those who send thither for their degrees. Hence the second letter bears the same relation to the former one that an amendment often does to a motion in a certain Honourable House, when it is proposed to leave out all the words after "*that*," and insert something of a totally opposite stamp.

Letter ij., following in the track of letter j., tells us, that Erlangen is not one of those super-facile universities which will send a degree in return for a certificate signed by three medical men. Oh no! The Bavarian mother requires from her foster-children, "(*a.*) that the candidate shall be a member of one of the surgical colleges; (*b.*) that he shall transmit to the faculty a written history of his life; (*c.*) that he shall send a thesis on some medical subject, with a certificate that it is entirely of his own composition; and, (*d.*), that he shall produce testimonials, from medical men of eminence, of his professional qualifications." Hence the natural conclusion drawn by letter j. was, "Get degrees from Erlangen;" while letter ij. moves, by way of amendment, that degrees be obtained from the London University.

We should hardly have drawn this conclusion from these premises. "Take a choice cucumber," says an old receipt, "pare it carefully, and slice it; prepare a sauce of the finest Lucca oil and sharpest French vinegar; add salt and pepper; then mix your salad well; and then—throw it away." The University and the cucumber seem alike to be hardly treated; their excellence leads but to rejection.

Our worthy correspondent, after having attained his honours according to the rules of a most lenient University, is for delivering all that follow to a most severe one; King Log is to be succeeded by King Stork. But the rising generation alone are to be gobbled up; their seniors are to slumber under the sceptre of his wooden majesty. The reader will, perhaps, think of Sancho, who applied the lash to his own back with Bavarian mildness, but flogged the tree most lustily!

The Erlangen Doctor says, "Now,

* Also, after the secretion of milk has ceased, the secretory structure is often loaded with mucus.
† MED. GAZ. Aug. 17, 1839.

however, that the title can be obtained in London with [without] any additional study, and without any lengthened absence from practice, and on the payment of a moderate fee, a degree from Erlangen, bearing date after the promulgation of the regulations of the London University, will be viewed as an evidence, on the part of the holder, that he feared to subject himself to a competent examination, and was willing to incur the suspicion of having surreptitiously obtained his honours, rather than submit his pretensions to a strict but impartial scrutiny."

Indeed! Why, it strikes us, that "M. D. Erlangæ" is on both sides of the question at once. Formerly, it seems, an Erlangen degree was most honourable; the certificate of the candidate's merits, signed by medical men of eminence; his thesis, actually written by no grinder, but by himself; with the knowledge implied in his being a member of some surgical college, showed a rare combination of excellence. Nay, his distant examiners wishing

> To gild refined gold, to paint the lily,
> To throw a perfume on the violet;

in short, to make their degree more than first-rate, required a history of his life, drawn up by the hand most capable of the task—his own!

> ——Quo fit ut omnis
> Votivâ pateat veluti descripta tabell
> Vita senis.

Yet, with all these sureties for perfection, it appears that a bran-new university is to beat Erlangen out of the market so decidedly, that Bavarian degrees will never, in mercantile phrase, look up again. This respectable foreign degree, conferred only after long deliberation, (four or five months, says our correspondent,) is suddenly to become a very suspicious affair. Last summer we praised the London University examinations for their strictness; "M. D. Erlangæ," however, feels quite sure that the examiners will temper the wind to the shorn lamb, and that degrees will be obtained by the practitioner, not only for a moderate fee, not only without any lengthened absence from practice, but "with [without] any additional study." Very possibly; but in that case where is the superiority of the degree? *Soyons de bonne foi*, as the French say; let us not pretend that degrees can be made very easy of acquirement, and, at the same time, very honourable in possession. If the title of doctor of physic is to mean something worthy of respect, the majority of those brought up to the profession will require much "additional study" before it can be conferred upon them. It must be confessed that the value which our correspondent supposes the Erlangen degrees to have lost so instantaneously by the birth of the London University, has been forfeited by most degrees in consequence of their commonness, so that the case of Erlangen belongs rather to the rule than the exception. The cause is obvious. Diplomas are a paper money put forth without limit; they are bank-notes which have sunk into assignats. The only check to the universality of degrees —the only obstacle to every practitioner being an M.D., as well as an Esquire, is, that hitherto it has been a general rule that an M.D. shall not practise pharmacy, and, therefore, most men would lose three-fourths of their income by sending their thesis and autobiography to Erlangen! Even this rule is sometimes broken; and yet the possessors of modern diplomas wish them to be taken at their ancient value.

The progress of society, admirable as it is, does not bring with it unmingled sweets; and as the quiet visitors of some rustic watering-place complain that the new road and the cheap coaches have destroyed the charms of their favourite retreat, the possessor of a diploma of the right sort laments, but in vain, that

his real gold is overpowered by its tinsel imitations.

In days of old, the "Doctoure of Physicke" was a rare and a respected personage. The medical profession was engrafted on the clerical one; and when separated from the parent stock, though it might lose some of the reverence paid to the priestly character, still enjoyed the respect always bestowed on learning, especially when learning is enhanced by great rarity. The modern reader, if he is destitute of imagination, and cannot transplant himself into the 14th century, may despise a practitioner who was not only ignorant of the minute anatomy of the liver, but scarcely knew its anatomy at all; but the doctor of physic, in the days of Edward III., knew whatever was necessary to his reputation; he needed no apology, but was armed *cap-à-pied* against every disputant. Thus Chaucer tells us of his doctor of physic:—

In all this worlde, ne was there none hym like
To speake of phisike, and of surgerie,
For he was grounded in astronomie;
* * * *
He knewe the cause of every maladie
Were it of colde, heate, moiste, or drie,
And whereof engendred, what humour.
* * * *
Well knewe he the olde Esculapius
And Dioscorides, and eke Ruffus,
Olde Hippocrates, Halie, and eke Galien;
Serapion, Rasis, and also Avicen;
Averrois, Damascene, and Constantin,
Bernarde, Gatisden, and Gilbertin.
Prologue to the Canterbury Tales.

Why, the very roll of names would be enough to frighten a patient into submission! Then, he was well dressed, and had accumulated gold, "for golde in phisike is a cordiall."

In that age the adage held good *dat Galenus opes*. These things, of course, cannot return; the lucrative monopoly of practice, and the reverence paid to rare talent, and almost mystic knowledge, are fled for ever. It remains for men of sense to make the best of their bargain, and to recollect that even gold has lessened in value since the discovery of Peru. We may learn a lesson from the effect produced upon the continent by the excessive diffusion of titles. "I," cried an angry German, "have a French Marquis in my kitchen;" "and I," retorted his opponent, "have a German Baron in my stables." What are we to say, if Mr. Tims, of Oxthorpe, has a *** doctor at his pestle and mortar?

On the long run, diplomas reckon for what they are worth, and no more. It is in vain that the discontented possessor of a parchment cries out that he has passed an examination in electricity, hydrostatics, and geography; people estimate his knowledge as they find it, and smile at the most brilliant signatures.

We will conclude with a friendly bit of advice, addressed to the youngest only of our readers, namely, never to boast of the sums which their education has cost, less the effect should seem disproportioned to the cause. "For my own part," says Dr. Looby, in one of Smollet's novels, "my education cost me fifteen hundred pounds." "Never was money laid out to less purpose," answers the Count.

KING'S COLLEGE.

THE new appointments to the chairs of medicine and surgery have at length taken place: not, however, till after overtures had been made to Dr. Watson and Mr. Arnott, with a view of inducing them to retract their resignations and remain. This they very properly declined: but the effort made to retain them shews that the parties to whom we alluded in announcing their retirement saw, when too late, the imprudence of their own conduct.

The new professors are Dr. Budd, and Mr. Fergusson of Edinburgh. The former is very favourably known by numerous highly-interesting papers which he has published since he became Physician to the Dreadnought, analyses of most of

which have appeared in this journal; of the latter gentleman, also, report speaks well, but we have not had the same opportunity of judging of his merits.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY,

February 11, 1840,

The President in the chair.

Memoirs on some Principles of Pathology of the Nervous System. By Marshall Hall, M.D., F.R.S., &c.

Memoir 2.—*On the Morbid Reflex and Retrograde Action of the Spinal Marrow.*

In this memoir the author describes some of the applications of his discovery of the true spinal system to clinical medicine, and especially traces the principle of the reflex actions in reference to the diseases of the nervous system.

This principle of action is the *vis nervosa* of Haller, acting, according to newly discovered laws, in reflex and retrograde directions.

The reflex actions are modified and controlled by volition, are diminished in cases in which the *vis nervosa* or the *vis insita* are impaired, and absent altogether when the reflex *arc* is interrupted. In order that this symptom may manifest itself then,

1. The interference of volition should be removed;

2. The *vis nervosa* and the *vis muscularis* should be unimpaired, not to say augmented; and

3. The *reflex nervous arcs* should be uninterrupted.

The author next traces the occurrence of the reflex actions, not in paraplegia alone, but in diseases of the head in general, and in hemiplegia in particular; in paraplegia, in tetanus, hydrophobia, and in the effects of strychnine. The next subject noticed is the occurrence of undue excitability in diseases of the spine. These follow a peculiar kind of disphagia, a peculiar action of the rectum and bladder, a peculiar action of the serrati and recti muscles, the effects of strychnine, and cantharides, &c.

The author next treats of the excitants of the reflex actions. These are cold, heat, mechanical stimuli, as pinching, the light touch of a feather, the plucking a hair, tickling, &c. It is remarkable that the effects are by no means in proportion to the apparent force of the cause, and the actions may be entirely independent of any sensation.

Each of the subjects was illustrated by a case, or cases, very briefly detailed.

Retrograde action in the spinal marrow is next noticed. In some cases it has appeared, that when disease is seated *below* the origin of the brachial plexus, the arm or arms have been affected. This subject wants investigation; it is, like that of the reflex actions, highly important in the diagnosis of the locality of the disease.

The paper was concluded by the following inferences:—

1. It is proved, by the series of facts which have been observed in the human subject, that the excito-motory reflex actions are independent of sensation and volition, however they may be accompanied by sensation, or influenced by volition, in the perfect animal.

2. It is proved, as a consequence, that the reflex actions are dependent on another principle of the nervous system; and it is proved, by a series of experiments, that this principle is the *vis nervosa* of Haller, acting according to a new reflex law.

3. The phenomena of the excito-motory reflex actions are obvious in cases of paralysis, in proportion as that paralysis is more complete; they are, therefore, more observable in paraplegia than in hemiplegia in general, but in each of these according to their intensity; they are, therefore, not only independent of sensation and volition, but inversely as these, frequently disappearing as these return.

4. In accidents, as in experiments, the excited reflex actions are not immediately observed, but are manifested only after the lapse of certain intervals of time; it is plain, therefore, that the first influence or shock is to diminish the excito-motory power; and this may remain until the patient falls a prey to the accident, as in the case noticed in Dr. Budd's paper, (p. 185.)

5. It is observed that, at a subsequent period, in more favourable cases, the excito-motory power is not only restored to its normal condition, but morbidly augmented.

6. This is especially observed in certain diseases, as tetanus, the effects of strychnine, &c.

7. Therefore arcs of the nervous system will be imperfect in cases of disease or injury of the lumbar or other regions, as in the case noticed in Dr. Budd's paper, (p. 185); and the reflex actions will, consequently, be absent—a fact which affords, in its turn, an important source of diagnosis as to the seat of the disease.

8. In certain cerebral affections, attended by coma, the presence or absence of reflex actions, in the eye-lids especially, gives us

an index of the degree of severity of the disease.

9. Certain diseases, as hydrophobia, epilepsy, hysteria, and certain remedies, as strychnine, cantharides, &c., not only induce augmented excitability, but manifest their effects precisely upon those organs which are, physiologically, under the influence and dominion of the excito-motory power.

10. There are new forms of the disease of the true spinal functions not hitherto described, such as dysphagia, the peculiar action of the rectum, &c. which have been briefly noticed.

11. Certain parts, as the sides of the thorax, the soles of the feet, &c., are more susceptible of the excitement in question than others.

12. Dr. W. Budd has very justly observed that in many cases of violent reflex, and even convulsive actions, there was no sense of fatigue, and little emaciation of the muscles. In fact fatigue is a cerebral act, and cannot be expected to occur in the cases in which the reflex actions are most observed; and emaciation is most obvious in spinal paralysis, in which, the reflex arcs being interrupted, the reflex actions are also precluded from taking place. Fatigue *is felt* severely after violent attacks of epilepsy, and other spasmodic diseases in which the cerebral functions are afterwards restored.

A short paper was afterwards read, containing an account of the analysis of a cystic oxide calculus in the museum of University College, London, by Henry Bruce Jones, R.A. of Trinity College, Cambridge, communicated by Mr. Charles Hawkins.

OFFICERS AND OTHER MEMBERS OF COUNCIL ELECTED FOR 1840-41.

President.—Sir Benjamin Collins Brodie, Bart. F.R.S.

Vice-Presidents.—J. Clendinning, M.D.; Henry Holland, M.D. F.R.S.; John Goldwyer Andrews, Esq.; Edward Stanley, Esq. F.R.S.

Treasurers.—Samuel Merriman, M.D.; James M. Arnott, Esq.

Secretaries.—Henry Lee, M.D.; John G. Perry, Esq.

Librarians.—Robert Willis, M.D.; Samuel Solly, Esq. F.R.S.

Other Members of Council.—Richard Bright, M.D. F.R.S.; George Burrows, M.D.; Marshall Hall, M.D. F.R.S.; Robert M. Kerrison, M.D.; Thomas Watson, M.D.; Henry Alexander, Esq.; Robert Liston, Esq.; John P. Peregrine, Esq.; Richard A. Stafford, Esq.; J. C. Taunton, Esq.

ST. THOMAS'S HOSPITAL.

To the Editor of the Medical Gazette.

Sir,

Should you deem the following case worthy of insertion in your valuable journal, you will much oblige, sir,

Your obedient servant,

John Buxton.

Grosvenor Place, Camberwell.
29th Feb. 1840.

Scirrhus of the Pylorus.

Christopher Kelly, an Irishman, ætatis 56, of a spare habit and sallow complexion, was admitted into Williams' Ward, St. Thomas's Hospital, under Dr. Burton, on the 24th September, 1839. He was by trade a carpenter.

He stated that he had perceived a tumor in the abdomen for about four months; that his health had been indifferent for several months previously, not relishing his food or drink, and that each meal was succeeded by sour eructations, and an uneasy sensation in the stomach. The bowels also were inclined to costiveness. Up to that time he had always enjoyed good health.

The swelling was situated above and to the right of the umbilicus, and appeared about the size of a large watch, somewhat similar in shape, but with an irregular, nodulous surface. It might easily be shifted from side to side, and it moved with the motion of the body. He had had at uncertain intervals, violent fits of pain, originating in the tumor, generally imparting the sensation of a blunt instrument being thrust up towards the chest, but occasionally darting up between the shoulders, and from side to side. To relieve his sufferings, he was ordered three minims of dilute hydrocyanic acid every eight hours, and was put on house diet.

These draughts were continued for a fortnight, and a linseed poultice, with tinct. opium, was afterwards applied to the stomach, but without relief.

Bran poultices were for a time successful in allaying the pain, and when these failed in producing ease, ten grains of extract of belladonna were rubbed on the part, and the stomach warmer, employed with advantage. Then tinct. opium and brandy were administered internally, and afforded much comfort.

Up to the 21st January there was no marked difference in the symptoms, but the tumor went on increasing, becoming harder, and more irregular, the bowels constantly required aperient pills, the tongue was furred, there was no appetite, and taking food was followed by sourness in the mouth, and a slight degree of pain in the stomach, but only once by vomiting. The swelling had by this time become fixed,

and received an impulse from the abdominal aorta; the pulse was slow, and very weak, and the pallor and emaciation present were very striking.

On the 4th of February the tumor was again moveable; and from the 7th to the 11th he had severe vomiting, and lingered till the morning of the 15th, when he died.

On examination the whole of the pyloric end of the stomach presented one mass of scirrhous matter, with an aperture for the transmission of food into the duodenum.

The diseased part adhered to the pancreas and liver, implicating both, but especially the former; and the mesenteric glands were enlarged, some being in a scirrhous state. The other abdominal organs, together with those of the chest, were healthy.

The most remarkable circumstance in this case was the almost entire absence of vomiting, till within a week of his death. This rendered it doubtful in what part of the viscera the scirrhus was situated.

An endeavour was also made to ascertain the cause of the disease, but there was nothing unusual in the habits of the patient, nor, according to his account, had any of his relations died of a similar malady.

EFFECTS AND MODE OF APPLICATION OF REMEDIES.

Suppositories.—When substances are introduced into the rectum, by the simple instrument, consisting of a tube and moveable rod inside, very different effects may be expected from the same when introduced *more majorum* by the finger. In the former case it is lodged above the sphincter, and much less mechanical disturbance accompanies it than in the latter, which is in all respects a detestable process. In irritation of the bladder, or painful affections of the uterus, two grains of the watery extract of opium, with six of soap—or, in spasmodic states of the urethra, a grain of extract of belladonna, are attended with marked benefit, and are productive of no inconvenience. It has been an old established practice among nurses, in case of refractory children, to introduce a fragment of soap with the finger, and generally, the necessity of giving purgatives is in this way for the time avoided; but on consulting authors, I find no account of purgative suppositories for adults, except some intended to cause the expulsion of ascarides from the rectum,* since the time of Hippocrates, who is said to have composed them of salt and colocynth.

Being desirous to ascertain to what extent purgatives would act, when introduced into the rectum in the form of suppository, I in the first instance fixed on assafœtida, and ordered it to be introduced by the tube and rod in eleven cases. It succeeded in all, producing one or two dejections, except in two, in whom it failed, and in one individual, who suffered much from flatulent distension of the colon, it was attended with relief much superior to that afforded by other purgatives. This may be ascribed to the volatility of the agent, which, diffusing itself through the colon, produced a general stimulation and contraction of the same, and being in the solid form, did not expend its volatile parts with so great a rapidity as to cause its premature expulsion, as occurs in the case of the fœtid enema. Hence in the numerous hysterical and dyspeptic affections, in which great annoyance is experienced from the pressure of an elastic tumor in the left hypochondrium, consisting of the arch of the colon distended by gas, beyond its capability of contraction, much benefit may be derived from the prolonged presence of the vapour of assafœtida, and from a perusal of the experiments related by Joerg* to have been performed with this substance, it appears the best adapted for producing an equal and universal contraction of the gut, the want of which is evidently a main cause of the distressing sensation just mentioned.

Suppositories consisting of one grain of elaterium in nine of soap, produced in two cases four dejections, in two caused one full dejection, and in one failed.

A suppository of two drops of croton oil added to soap, in a case of obstinate bowels, caused three full dejections, commencing in about ten minutes after its insertion. On a repetition, it caused the expulsion of one hard fæcal lump, and was followed by tenesmus. In another case, I formed a soap of croton oil and caustic potash, and having dissolved it in a large quantity of water, ordered it to be injected as an enema. Those observations, in connection with some made previously, tend to shew that croton oil is not well suited for this purpose, and that if retained, it may cause serious irritation of the rectum.

The widow Walshe's pills.—Those pills have an extensive sale in England, and are in high and long established repute as emmenagogues. One of them was given to a young lady under my care, with the desired effect following on the same night, and three other cases came to my knowledge in which a similar result fol-

* Ganbii de Methodo concinnandi Formulus, Lug. Bat. 1767, p. 433.

* Joerg Materialen zu einer kunftigen Heilmittellehre, p. 366. This excellent work is well named "Materials." I hope to make frequent use of the experimental portion as such, but while placing an implicit reliance on the facts, I shall have to offer different explanations of them from those given by the able author.

lowed their use. I procured some, and subjected them to the following observations; first, they are nearly tasteless, and have no odour; second, they have no purgative effect; third, on an exposure to the blow-pipe a slight charring took place, and they were resolved into a red powder, (with a very slight loss of weight;) this when treated with repetitions of dilute muriatic acid, was dissolved, (without effervescence,) and the solution struck the blue colour with ferrocyanide of iron; fourth, on treating another pill with water, its colour was scarcely altered, but it threw down an abundant white precipitate with muriate of barytes. From the above I think it follows, that they are composed of sulphate of the peroxide of iron, with a small quantity of insipid vegetable matter, probably gum, as much as requisite for adhesion. It became a question to ascertain the effect of the same salt of iron in the same dose as in those pills, but the results of several observations have not been consistent or satisfactory. — *Dr. Osborne in Dublin Journal.*

EFFICACY OF COLD WATER,

IN THE FORM OF A DESCENDING DOUCHE, FOR OLD ULCERS OF THE FEET.

By Dr. Butzke, of Schwetz.

Atonic ulcers of the feet are very difficult to cure. They may continue without any internal cause, from a local secretion having become necessary to the system, or from the diminution of vital energy, or from organic degeneration of the skin and cellular membrane in the vicinity of the diseased surface. Dr. Butzke has succeeded in curing these ulcers easily and perfectly by the cold douche, which, by its enlivening and astringent power, removes the local atony of the skin round the ulcer; and this without repose being rigidly enforced, and without purgatives or limited diet. The method adopted was as follows: The water was brought from a spring into a wooden cistern four feet long, two broad, and two deep. On one side of the cistern, just above its bottom, were four wooden pipes, out of which the water fell from a height of six feet, in a strong unbroken stream. A bench was placed in front of the cistern, and a small footstool under the streams of water. The patient sat astride the bench, so that only the diseased foot, which was placed upon the footstool, was touched by the water. The douche was generally applied for half an hour, or in ulcers of a very bad kind, for an hour, every afternoon, without regarding the weather. When the douche was over, the foot was wiped dry and bandaged, the ulcer being merely covered with charpie.

The first effect of the douche was acute pain in the ulcer, which was sometimes so violent, that it was necessary to discontinue the application in ten minutes; then there came on a dark phlegmonous redness of the skin near the ulcer, and occasionally a slight hemorrhage from the sore. When the douche was over, the secondary effects were a peculiar crawling and itching on the surface of the ulcer, considerably increased heat, swelling, and a rosy colour of the surrounding skin, together with the secretion of a thin lymphatic pus from the ulcer, and an increase of perspiration in the diseased extremity. The douche was less efficacious in herpetic ulcers of the feet, and scrofulous caries of the lower extremities; yet even in these cases one half of the patients were cured. —*Med. Zeit.* and *Schmidt's Jahrbücher.*

MIDWIFERY PRACTICE.

The following is a summary of the labours which occurred in the practice of Janson the elder, of Ghent, during forty-one years, from Jan. 1, 1797, to Dec 31, 1837. Thirteen thousand three hundred and sixty-five women bore 13,439 children, of which 6,611 were boys, and 6,828 girls; out of 157 cases of twins, in 38 they were both boys, in 62 both girls, and in 39 one of each sex; eight twins were born dead; there was one case of triplets, all girls; 859 were natural children. Three hundred and forty-one labours required the forceps, and 484 preternatural labours were terminated by the hand. In 150 the foot presented, in 30 the hand, in 97 the breech, in 20 the breech had descended into the smaller cavity of the pelvis; 2 breech presentations required the application of instruments. In 15 cases the face presented; in two face presentations the forceps was required. In 86 cases the funis presented, and 46 of these children were delivered alive by turning; 38 died through the compression of the funis; and 6 were delivered alive by the forceps, in cases where the funis preceded the head. Seven times the placenta was upon the os uteri. Perforation was performed five times; once the symphysis pubis was divided, and a cure took place; once both mother and child died suddenly, the child being thrown into the abdomen by a spontaneous laceration of the uterus. Superfœtation occurred twice; one child was at its full time, the other three months old. Convulsions and sudden death occurred thrice, and serious hæmorrhage before delivery four times. It is to be remarked that M. Janson practised for 15 years before 1797, without keeping notes.—*Bull. de la Soc. de Méd. de Gand* and *Schmidt's Jahrbücher.*

A TABLE OF MORTALITY FOR THE METROPOLIS,

Showing the Number of Deaths from all Causes, registered in the Four Weeks ending Feb. 29, 1840.

Causes of Death.	February 1840. 2nd—8th.	9th—15th.	16th—22nd.	23rd—29th.	Weekly Average, 1838.
Small-Pox	5	6	9	4	73
Measles	16	13	12	11	11
Scarlatina	33	46	44	45	29
Hooping Cough	15	20	22	27	40
Croup	5	5	6	11	7
Thrush	4	9	6	5	6
Diarrhœa	6	6	3	5	8
Dysentery	1	2	2	1	2
Cholera	..	..	..	..	.3
Influenza	..	..	4	..	1
Typhus	31	30	20	21	78
Erysipelas	3	3	1	5	8
Syphilis	..	..	..	1	1
Hydrophobia	..	..	..	..	.2
Total	119	140	129	136	265
Cephalitis	9	19	11	9	10
Hydrocephalus	35	26	31	42	34
Apoplexy	25	18	14	23	19
Paralysis	17	13	20	13	14
Convulsions	57	52	48	55	67
Epilepsy	7	3	11	5	4
Insanity	1	..	..	4	1
Delirium Tremens	..	..	1	2	1
Dis. of Brain, &c.	7	13	6	9	6
Total	158	144	142	162	156
Quinsey	..	2	..	..	2
Bronchitis	14	14	8	11	8
Pleurisy	4	1	..	2	2
Pneumonia	58	55	57	59	71
Hydrothorax	4	4	10	6	6
Asthma	29	35	39	39	28
Consumption	139	141	151	139	146
Dis. of Lungs, &c.	13	11	11	14	10
Total	261	263	276	270	275
Pericarditis	1	..	1	..	.3
Aneurism	1	..	1	..	.5
Dis. of Heart, &c.	20	20	16	24	15
Total	22	20	18	24	16
Teething	12	18	13	16	15
Gastritis — Enteritis	15	14	14	8	17
Peritonitis	..	4	1	1	1
Tabes Mesenterica	..	3	7	3	3
Ascites	1	1	..	2	.4
Ulceration	..	..	..	..	1
Hernia	2	..	3	1	2
Colic or Ileus	2	2	2	1	4
Dis. of Stomach, &c.	5	6	11	1	4
Hepatitis	..	1	1	1	1
Jaundice	1	3	3	2	2
Dis. of Liver, &c.	5	6	8	5	7
Total	43	58	63	41	57

Causes of Death.	February 1840. 2nd—8th.	9th—15th.	16th—22nd.	23rd—29th.	Weekly Average, 1838.
Nephritis	1	..	..	..	.5
Diabetes	..	..	..	..	.4
Stone	1	3	..	1	.4
Stricture	..	..	..	..	.6
Dis. of Kidneys, &c.	4	3	2	4	3
Total	6	6	2	5	5
Childbed	2	7	6	4	8
Ovarian Dropsy	..	..	..	..	.3
Dis. of Uterus, &c.	1	1	1	3	2
Total	3	8	7	7	10
Rheumatism	3	6	1	5	4
Dis. of Joints, &c.	2	4	4	3	4
Total	5	10	5	8	8
Ulcer	1	..	..	1	.4
Fistula	1	..	..	..	.4
Dis. of Skin, &c.	2	..	..	..	.4
Total	4	..	..	1	1
Inflammation	5	5	6	4	18
Hæmorrhage	2	..	5	3	4
Dropsy	19	31	43	43	34
Abscess	5	4	3	7	4
Mortification	6	4	5	5	4
Scrofula	5	2	5	1	1
Carcinoma	12	9	6	9	6
Tumor	1	1	1	3	1
Gout	1	..	..	3	1
Atrophy	2	4	6	6	4
Debility	23	17	22	26	12
Malformations	4	..	..	..	1
Sudden Deaths	14	13	17	18	12
Total	99	90	119	128	102
Old Age, or Natural Decay	78	54	65	95	79
Intemperance	..	..	..	1	.4
Privation	..	1	..	..	.6
Violent Deaths	19	15	24	35	25
Total	19	16	26	36	26
Causes not specified	1	4	3	2	13
Deaths from all Causes	818	813	855	916	
Weekly Average, 1838	..	..	..	..	1013

February 1840.	AGES. 0—15.	15—60	60 & upwards.
2nd—8th	346	278	194
9th—15th	356	282	174
16th—22nd	345	319	189
23rd—29th	375	330	211
Weekly Average, 1838	466	352	192

Estimated Population, 1840.	Feb. 2nd—8th	9th—15th	16th—22nd	23rd—29th	Weekly Average, 1838.
West Districts, 308,920	125	98	121	138	156
North Districts, 414,458	152	145	141	192	172
Central Districts, 369,722	157	172	184	170	208
East Districts, 411,635	167	190	199	171	239
South Districts, 450,265	217	208	210	245	238
1,955,000	818	813	855	916	1013

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, March 3, 1840.)

	Price.			Duty.		Duty Paid.	
						In 1839 to last week.	Same time last year.
	£ s. d.		£ s. d.		s. d.		
Aloes, Barbadoes, D.P. c	15 0 0	to	30 0 0	B P. lb	0 2	16,361	29,376
Hepatic (dry) BD..... c	5 0 0		10 0 0	F. lb	0 8		
Cape, BD. c	1 15 0		2 10 0				
Anise, Oil of, German, D.P....lb	——		——	F. lb	1 4	322	681
E. I. .....lb	0 5 0		0 5 6	E. I.	1 4	216	——
Asafœtida, B.D. c	1 10 0		3 10 0	c	6 0	35	15
Balsam, Canada, D.P. .....lb	0 1 0		0 1 1	lb	0 1	1,955	1,619
Copaiba, BD.....lb	0 1 3		0 1 10	c	4 0	120	100
Peru, BD. .....lb	0 4 6		——	lb	1 0	123	131
Benzoin (best) BD..... c	25 0 0		50 0 0	c	4 0	7	34
Camphor, unrefined, BD..... c	30 0 0		——	c	1 0	121	51
Cantharides, D.P. .....lb	0 4 0		0 4 0	lb	1 0	3,228	4,867
Caraway, Oil of, D.P. .....lb	0 9 0		——	lb	4 0	470	190
Cascarilla or Eleutheria Bark, D.F.C.	3 10 0		——	lb	0 1	807	——
Cassia, Oil of, BD.....lb	0 8 6		——	lb	1 4	579	946
Castor Oil, East India, BD.....lb	0 0 4		0 0 10	c	1 3	903	855
West I. (bottle) D.P. 1½lb	——		——		——		
Castoreum, American .....lb	0 17 0		0 18 0	lb	0 6	129	396
D.P. Hudson's Bay .....lb	0 18 0		1 0 0				
Russian.....lb	none						
Catechu, BD. Pale c	1 5 0		——	c	1 0	20,797	5,831
Dark	1 5 0		——				
Cinchona Bark, Pale (Crown)....lb	0 2 0		0 3 6	lb	0 1	11,426	21,672
BD. Red .....lb	0 2 0		0 4 0				
Yellow .....lb	0 4 0		0 4 4				
Colocynth, Turkey .....lb	0 1 6		0 2 9	lb	0 2	1,760	1,555
D.P. Mogadore .....lb	0 1 0		——				
Calumba Root, BD. c	0 12 0		1 15 0	lb	0 2	3,033	6,112
Cubebs, BD. c	2 10 0		——	lb	0 6	10,560	10,717
Gamboge, BD. c	5 0 0		15 0 0	c	4 0	5	17
Gentian, D.P. c	1 6 0		1 8 0	c	4 0	98	196
Guaiacum, D.P.....lb	0 1 0		0 3 0	c	6 0	1	2
Gum Arabic, Turkey, fine, D.P... c	12 0 0		13 0 0				
Do. seconds, D.P. .. c	7 0 0		7 10 0	c	6 0	1,794	1,781
Barbary, brown, BD. c	1 17 0		1 18 0				
Do. white, D.P..... c	5 10 0		——				
E. I. fine yellow, BD. c	2 5 0		2 14 0	c	6 0	980	1,904
Do. dark brown, B.D. c	1 15 0		2 5 0				
—— Senegal garblings, D.P. c	3 2 0		——	c	6 0	2,911	4,792
—— Tragacanth, D.P. c	8 0 0		12 0 0	c	6 0	——	10
Iceland Moss (Lichen), D.P. ....lb	0 0 2½		0 0 3	lb	0 1	——	——
Ipecacuanha Root, B.D. .....lb	0 1 3		0 1 6	lb	1 0	2,027	1,500
Jalap, BD. .....lb	0 2 2		——	lb	0 6	11,146	9,078
Manna, flaky, BD. .....lb	0 3 6		——	lb	0 3	2,969	2,958
Sicilian, BD. .....lb	——		——				
Musk, China, BD. .....oz	1 0 0		2 0 0	oz	6 0	437	483
Myrrh, East India, BD. c	5 0 0		14 0 0	c	6 0	70	73
Turkey, BD..... c	2 0 0		11 10 0				
Nux Vomica, BD.....lb	0 8 0		0 9 0	lb	2 6	——	——
Opium, Turkey, BD. .....lb	0 11 0		——	lb	1 0	10,025	9,051
Peppermint, Oil of, F. BD.....lb	0 11 0		——	lb	4 0	1,158	277
Quicksilver, BD. .....lb	0 4 0		——	lb	0 1	66,394	60.984
Rhubarb, East India, BD.....lb	0 6 0		0 8 0	lb	1 0	3,018	7,299
Dutch, trimmed, D.P. lb	0 4 0		0 8 0	F. lb	1 0	7,424	879
Russian, BD. .....lb	0 8 6		0 9 0				
Saffron, French, BD. .....lb	0 17 6		0 17 6	lb	1 0	515	889
Spanish .....lb	——		——				
Sarsaparilla, Honduras, BD.....lb	0 1 0		0 1 9	lb	0 6	20,845	20,410
Lisbon, BD. .....lb	0 2 0		——				
Scammony, Smyrna, D.P.....lb	——		——	lb	2 6	2,371	2,560
Aleppo .....lb	0 18 0		1 0 0				
Senna, East India, BD. .....lb	0 0 3		0 0 4	E.I. lb	0 6	18,824	15,034
Alexandria, D.P.....lb	0 1 6		0 1 8	Other sorts	0 6	6,652	21,831
Smyrna, D.P. .....lb	0 1 0		0 1 3				
Tripoli, D.P. .....lb	0 1 0		0 1 3				

‡§‡ BD. In Bond.—c. Cwt.—B. P. British Possessions.—F. Foreign.—D. P. Duty paid.

MEMOIR ON THE CAUSES OF SCROFULOUS DISEASES.

By M. Lugol.

Can scrofulous diseases be the result of accidental external causes, or are they hereditary affections? Such is the question which M. Lugol proposes, and to which he answers as follows:—

The accidental causes have no necessary effect, and there is at least reason to doubt whether they are of themselves alone sufficient to give rise to a scrofulous affection. Inheritance, on the contrary, is the most evident and the most common cause, and that which we are obliged to acknowledge in the great majority of cases.

M. Lugol regards the existence of scrofula in a child, as the certain sign of the family temperament, in consequence of which all the other children have the same original predisposition to the disease. If one examines what takes place in families, in which this temperament is indicated by the sign just mentioned, it is found that they are subject to great mortality: scarcely a fourth of the children attain the age of puberty, and it is not rare for very large families to be swept away at an age even much less advanced. Scrofula, in fact, presents itself as the most active source of destruction to the human race: there is no other malady whose victims are so numerous and so young.

After showing the essential characters of hereditary transmission, those which mark it and it alone, M. Lugol passes to his inquiries on the causes of this transmission, in considering what is the state of health of parents who produce scrofulous children. He divides the facts that relate to this question into two orders; one relating to the original state of health; the other to the acquired state of health of the patients.

After having treated of scrofula in subjects born of scrofulous parents, and in those who are born of phthisical parents, he goes on to show that parents whose youth has been marked by scrofula, but who, at the present time, enjoy very good health, often produce scrofulous children. He shows also that parents who do not themselves appear scrofulous, but who have brothers and sisters that are so, have often a scrofulous offspring.

M. L. has also seen that parents may never present any symptoms of scrofula till after they have had scrofulous children; and he arrives at the conclusion that hereditary diseases never pass over a generation, which is contrary to the opinion generally received on that point.

In a second section, relating to the acquired health of the parents who produce scrofulous children, he treats successively of scrofula from syphilitic parents, a question on which he has accumulated very extensive information; then of scrofula from abuse of venereal pleasure; of that from too early marriages in each extremity of the social scale; of that from disproportion in the age of the parents; and, lastly, of that of which he has collected a great number of examples, and which almost invariably arises from all the marriages in which the man does not possess the comparative strength of his sex.—*Comptes Rendus*, Janv. 20, 1840.

[Translated from the abstract of the larger work by the author, who, at the Hôpital St. Louis, enjoys, perhaps, greater opportunities of studying scrofula in all its forms than any physician in Europe.]

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Feb. 20, 1840.

W. Webber Munckton, Curry Revel.—John B. Guazzaroni.—Joseph Henry Taylor, Winchester.—James Selby, London.—W. Dallah Mann, York.—W. Henry Campbell.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Feb.* 25, 1840.

Age and Debility	25	Hooping Cough	4
Apoplexy	3	Inflammation	4
Asthma	7	Bowels & Stomach	4
Cancer	1	Brain	3
Childbirth	1	Lungs and Pleura	5
Consumption	33	Influenza	1
Convulsions	16	Measles	2
Croup	1	Small-pox	2
Dentition	5	Sore Throat & Quinsey	2
Dropsy	7	Thrush	1
Dropsy in the Brain	2	Worms	1
Epilepsy	1	Unknown Causes	68
Fever	10		
Fever, Scarlet	4	Casualties	8
Hæmorrhage	1		

Decrease of Burials, as compared with the preceding week . . . 1

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Feb.	Thermometer.		Barometer.	
Thursday . 20	from 30	to 33	30·32	to 30·34
Friday . . 21	29	33	30 33	30·29
Saturday . 22	20	34	30 23	30·20
Sunday . . 23	20	34	30·15	30·13
Monday . . 24	20	37	30·23	30·37
Tuesday . . 25	24	41	30·43	30·49
Wednesday 26	27	37	30·48	30·43

Prevailing wind, N.E.

On the 25th and two following days generally overcast, small flakes of snow falling occasionally. On the 23d and two following days generally clear; the 26th overcast. The barometer has not been so high as on the 25th, since the 20th of October, 1837.

Charles Henry Adams.

Wilson & Ogilvy, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, MARCH 13, 1840.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.

Surgeon to the St. Marylebone Infirmary.

SCALP DISEASES—*continued.*

Herpes, *Nature, Treatment.*—Impetigo, *Nature, Diagnosis, Treatment.*—Porrigo, *Characters, Distinctions, Treatment.*—Pityriasis, *Nature and Treatment.*—Lepra, *Nature, Diagnosis, Treatment.*—Impetigo, *Nature, Causes, Diagnosis, Treatment.*—Psoriasis *and* Lepra, *Nature, Distinctions, Diagnosis, Treatment.*

During the time I have been attached to this Infirmary, the only species of herpes of the scalp which I have seen is the *circinnatus.* It is characterised by extremely small, round vesicles, arranged in perfect circles; the centre of which is usually unaffected, the borders alone being red, and surrounded by these vesicles. At its first appearance we only distinguish a red patch of varying extent, and of a rounded or oval form: sometimes the central part of the ring is red; at others it is quite natural. The vesicular fluid soon becomes turbid, the vesicles open, and are succeeded by thin scales; these are generally soon detached, and the stages of the disease are usually passed through within ten days. A succession of such circles, sometimes slightly modified, may occur, and then, of course, the duration of the disease is extended. The only inconvenience usually felt is a sensation of stinging and itching. This disease, superficially examined, may be confounded with lepra; but the want of a central depression, and the existence of some vestiges of vesicles, are sufficient distinctive marks. Again, it may be confounded with porrigo scutulata; but here a little care will set matters right—the one is a vesicular disease, and only produces scales, its duration is short, and it does not cause the hair to fall off; the other is pustular, contagious, produces scabs which increase in thickness, its duration is uncertain, and the hair falls off.

In the treatment of this disease, an acidulated laxative medication, with a regulated diet, will be usually found adequate to the cure. Emollient applications should be made to the part; with these we may associate the alkalies if necessary, and even astringents, such as alum or sulphate of zinc. These means will ordinarily be found sufficient for the relief of this affection. Occasionally there is acute inflammation at the part; in that case, a few leeches may be applied in its vicinity—these, with emollients, will soon relieve it.

IMPETIGO.

Impetigo is manifested in the form of small yellowish-white pustules, irregularly dispersed over the scalp, pierced at their centre by a hair, accompanied by a somewhat acute inflammation, and by much itching. In a time, varying from two to four days, from these pustules, is exhaled a fluid which often mats portions of hair together, and presents the appearance of separate, brownish or greyish, irregular, unequal crusts, which were compared by Alibert to small masses of mortar, but which bear often a striking resemblance to gum exuded from trees. After a certain time these scabs are detached from the integument, but remain adherent to the hair. They have a nauseous disagreeable odour; so disagreeable, in dirty persons, as to infect the room in which they live. This condition, under treatment, often lasts some months; left to itself, it may last longer; but, if judiciously treated, it should

disappear in a few weeks. It is most commonly seen in early life, during dentition, when it may extend more or less over the face, and has in this form obtained the name crusta lactea. More frequently it seems to affect women than men; and my experience favours the opinion, that it is oftencr seen in those presenting light complexions and fine skin than others. It is certainly much commoner in spring than at any other season; but this is the case with many other skin diseases. It is more frequently met with at the posterior than the anterior part of the scalp.

Diagnosis.—We can easily distinguish the small pustules of impetigo from the simple favus of porrigo favosa, or the circular patches of the scutulata. From the impetiginous pustule the fluid is soon exuded, and is succeeded by greyish or brownish crusts, whilst the pustule of porrigo, deeply set, quickly ends in a deep yellow scab, with a central depression. Again, impetigo of the scalp is not contagious, and the hair-bulb does not undergo the changes which are so characteristic of favus.

You will observe, that I do not propose to-day to point out the distinctions by which certain forms of impetigo are characterised; because I wish to impress upon your minds broad lines of demarcation between the different affections of the scalp, and because I fear, instead of assisting you, it might only confuse. I shall, therefore, reserve for another occasion, when you are more familiar with impetigo, the consideration of the varieties.

Treatment.—We will now consider the treatment which we have found best adapted to impetigo of the scalp. The first precaution to take is to cut the hair as closely as it can be done with a scissors, and the scabs must be detached by the application of emollient poultices, or such alkaline solutions as I have already spoken of. The next indication is to treat the patient constitutionally; and, in my experience, the constitutional treatment which the patient usually requires is a decidedly antiscrofulous one. I am accustomed to exhibit the ioduret of iron, in doses varying from one to two grains, three times a-day; and I have every reason to be satisfied that, with this precaution, you will witness a much more decidedly marked effect from local treatment than you would otherwise do. It is seldom that much general excitement is lit up by this disease; it will, however, occasionally, though rarely, happen, that the local inflammation, in plethoric individuals, is considerable, so much so as to render blood-letting advisable. Local bathing is often very beneficial, but the temperature should not exceed 90°; sometimes poppy fomentations; sometimes cold water. But these are only useful in the early stages of impetigo; as the inflammation abates it may be found useful to employ alkaline or alum lotions.

When the affection presents a still more chronic form, sulphur baths and the sulphuret of potash lotion may be advantageously used. Lotions of the ioduret of sulphur, as well as ointment of the same kind, have been found to act favourably. More active stimulants, and even cauteries, have been used, when the disease occupies a very limited surface; generally, however, their employment is not advisable. Neither should the different preparations of arsenic be used except in extreme cases. The greater number of cases will unquestionably yield to simpler and milder means. Acid lotions, composed of acid. nit. dilut. ʒss. ad ʒ i. to a pint of some mucilaginous decoction, is the application I commonly make, and of its effects most of you have been witnesses. With this I ordinarily direct that the following mixture should be taken, the dose varying with the case: acid. nit. dil. ʒj.; magn. sulph. ʒiij.; barley water, a pint. From a third to the whole of that mixture should be taken in the day, according to the age of the patient, and the state of the bowels. Nothing can be more cheering than my experience of this plan of treatment: and only in a comparatively small number of cases will it fail you, and in those cases you must have recourse to some other of the remedies which I have pointed out.

PORRIGO.

For the purpose of lessening as much as is practicable the confusion to which I have alluded, I propose to consider jointly the two varieties of porrigo, the favosa and scutulata, which have, I believe, no other characteristic difference than the arrangement or grouping of the elementary favi, and their scabs. In the one case they may be single or irregularly clustered; in the other the arrangement is more or less perfectly annular. By excluding the six varieties of Willan, I shall be removing much of the obscurity at present attaching to the subject. Besides this, such a course will constitute for porrigo a well-marked and easily described character: the depressed centre of the pustule; the absence of a well-defined inflammatory circumference; the distinct cupped crust; its brimstone colour, and its well-proved contagious character; these are sufficient and distinct peculiarities which belong alone to porrigo. Willan says of his porrigo favosa, that it is a pustular disease, followed by thick yellowish-brown scabs: can this be any other than a variety of impetigo? His porrigo furfurans was unquestionably either chronic eczema or pityriasis; his porrigo decalvans must be a condition succeeding to impetigo

or porrigo; his porrigo larvalis is no doubt an impetigo. If, therefore, I am right in the opinion I have expressed with respect to impetigo and porrigo, to mistake the one for the other, or, indeed, to err in the diagnosis of scalp diseases, except under very peculiar circumstances, is inexcusable.

Porrigo is dependent, I believe, upon the development of a favous pustule in the piliferous follicles; its frequency where these follicles are most numerous, the constant presence of hair in the pustule, as well as in the scab by which it is followed, would lead to some such opinion. Baudelocque, in his letter to Alibert, expresses his belief that the favous matter is deposited in these follicles, becomes concrete, and forms a small nucleus, which he termed a tubercule; the secretion continues around this nucleus, is dried, the cavity is enlarged, filled, distended. This matter endeavours to escape, penetrates into the neck of the follicle, is there retained by the epidermis; the secretion continues, the neck and the orifice are dilated, the new secretion passes around the already concrete central portion, distends the cuticle, leaving the firmly concrete and adherent centre depressed. Pressure by new matter continues, a rupture of the circumference takes place; the follicle assumes its usual form, the epidermis is renewed, and the cure takes place, if a new favus be not reproduced. Whether this opinion be correct, or whether the old one, that the disease begins by pustules or vesicles, whose rupture is followed by ulceration of the reticular tissue, or, by the simple denudation of the part, the liquid secreted by the skin, thus denuded or ulcerated, producing scabs;—whether the opinion formerly expressed by Rayer, that this disease commences by *pustules*, whose destruction exposes the reticular (but not ulcerated) tissue;—or that of Duncan and Underwood, who place the seat at the *root of the hair*;—or that of Sauvages, that the disease is seated in the sebaceous glands,—which was afterwards adopted by Murray, and still more positively by Mahon;—or the still more recent one, that the disease is a parasitical fungous structure,—are questions still debated, about which I cannot farther occupy your time. I have glanced at them merely for the purpose of showing you that the seat and mode of development of this affection are not questions which admit of easy determination. However, having examined them, all my own opinions remain unchanged, excepting in as far as one point is concerned, the parasitical character of the favous matter itself.

In whichever mode formed, and whatever their nature, the pustules of porrigo are at first extremely small, so small that, to a casual observer, they are not perceptible. They are small yellow points; they do not project beyond the level of the skin. Almost as soon as they are observed the fluid they contain becomes concrete; and if the point be then accurately examined, either with the naked eye or with a lens, a central depression may be observed. This becomes more and more obvious every day in proportion as the crust becomes thicker, and by the sixth day it is very marked. There may be only one of these scabs, or there may be many; they may be clustered, or they may assume an annular arrangement; but, in either case, each pustule is ordinarily traversed by the hair. The scab augments, but retains, if isolated, a circular form, and the central depression is more decided. It may acquire a considerable size; Biett has seen a single scab more than an inch in diameter. When many of these scabs are in contact, a more or less extended yellow crust is seen, containing many depressions, each corresponding to a pustule, and a honey-comb appearance is presented. Now and then, however, it happens, that the favous liquid is secreted more abundantly, covers the primitive crusts, and alters their form; but, if we remove this secondary matter, the central depression will be directly seen. It is especially easy to verify this when there is an agglomeration of favi. After removing all beyond the level of the skin, we perceive each favus with its depressed centre, isolated, separated from the others by an interval in which the skin is healthy. When the crusts are much developed they are of a yellow colour, and if, by emollients, or alkalies, or sweet oil, they are then removed, we find slight and, as it were, eroded depressions, upon which new crusts are not necessarily formed. In fact, to have a new scab with a central depression, you must have a new favus.

The development of this disease is accompanied by a certain quantity of itching, sometimes even it is very great. If the disease be not interfered with, those scabs may remain attached for a long time—months, or even years; but then they do not commonly retain their yellow colour, and they acquire great thickness. The skin then, too, becomes the seat of chronic inflammation, the integuments become spongy, and sometimes even the cranial bones are affected. Another characteristic is afforded by the hair; it may be removed with the greatest ease wherever a pustule is developed; the skin remains smooth and shining where the hair has dropped off, and it is never reproduced except in a woolly form. General symptoms, at least those of an acute character, are not often observed in this affection; but the itching is now and then extremely troublesome, and especially so when, from want of clean-

liness, the head swarms with pediculi, which burrow under the scabs; then the scratching, which cannot be avoided, increases the inflammation; then the odour exhaled from the head is like the urine of a cat. If emollient poultices be now applied, the odour becomes faint, and like that of a bone, with its ligaments, which has been long in maceration. These crusts, according to the analysis of Thenard and Chevilliot, contain 70 parts of coagulated albumen, 17 of gelatine, 5 of phosphate of lime, water, and loss 8 parts in every 100. This disease is often seen in those whose moral and physical faculties are feeble, and who present a premature appearance of age. Indeed, unless where communicated by contagion, it seems to be developed principally in persons whose general health is profoundly affected by scrofula or other constitutional affections.

Although there can, I apprehend, be no doubt, that a large number of cases of porrigo are caused by contagion, yet I do not subscribe to the opinion expressed by many persons as to the intensity of its contagious power. I have known many cases in which the scabs were left for some time in contact with the healthy skin without producing the disease; whether, in fact, the scab possesses this power at all seems to me doubtful. Willan, it is true, describes a strong case which he knew, where, in the course of a month, one child in a school had communicated the disease to fifty others: but then he believed that it was caused by making use of the same comb, and it was therefore not certain that the comb may not have ruptured pustules, and applied favous matter before the evolution of the pustule. I am not here to endeavour to lessen the impression of the contagious nature of this disease, but to deny the intensity which some persons have ascribed to it. It is true that some attempts at inoculation have not succeeded; but this is not sufficient to prove that the disease is not contagious, a belief which might bring about consequences too serious to admit of its being lightly expressed. In fact, supposing all necessary precautions, all circumstances favourable to inoculation, should we believe that porrigo is not contagious, because some experiments to inoculate have not succeeded, when we know that similar attempts have failed in syphilis, scabies, variola, &c. which are not less essentially contagious diseases? I have already pointed out the reasons why you should not confound porrigo with any other disease, and I shall not occupy your time with again referring to them.

Treatment.—We now come to the most important point, the treatment of this disease. As I said in speaking of impetigo, so I say of porrigo, the first point to be attended to is the getting rid of the scab. For this purpose, the hair in the vicinity must be pretty closely cut with a scissors, so as to enable us to direct our agents directly upon the diseased point. The head should then be well washed with soft soap, and afterwards a common poultice may be applied, by which the scabs will be softened and soon brought away, or it may be done by rubbing the scalp with sweet oil. If, for any reason, the poultice be objected to, we may afterwards apply, for five or ten minutes at a time, carbonate of soda or potash, either in the form of unguent or lotion, in proportions such as I have already described,—*i. e.* ʒi. to ʒij. ad ℥i.—at the same time those alkalies will be still further beneficial by acting as depilatories. When the scabs are removed, we carefully examine the parts to ascertain whether new favi exist there. I am accustomed, after the removal of the scabs, to apply either the sulphuret of potash lotion, or a slightly acidulated one. In most cases, these means will be found to succeed in the course of six weeks; but occasionally you will see cases so obstinate as to resist, and here you may employ, by applying directly upon the point, solution of sulphates of zinc or copper, ʒss. to ʒi.; or nitrate of silver, gr. x. ad ʒi.; or this ioduret of sulphur, in the proportion of ʒi. to the ounce of lard. I have now and then pursued a different course, and with much success. If the affection be very chronic and obstinate, and, upon the removal of a scab I find one or more favi under it, I apply, upon the end of a needle, directly upon the favi, nitric acid, or the protonitrate of mercury. The favi are thus destroyed, and the disease at the point arrested. Do not, however, neglect the other means to which I have alluded. Usually they will succeed; when they fail you may resort to the cautery with the best effect. I always use similar internal means to those I have recommended you to employ in the treatment of impetigo; and in an especial manner do I urge you to use the same means in this affection. In some very obstinate cases, where the scalp is very spongy, scarifications will be found very beneficial.

PITYRIASIS.

Pityriasis is not unfrequently seen in young children. It constitutes a slight crust, which resolves itself into imbricated scales; these are detached, as you see here, leaving the scalp slightly red. Wildebrand, who carefully considered the structure and functions of the skin, considers the secretion of the epidermis as being analogous to those of mucous surface, only that the cutaneous secretion becomes solid, while the mucous is rejected. Pityriasis often affects the scalp in adults and in aged people; but in

these it does not form a continuous layer as in children, but produces an incessant desquamation, so that the hair looks almost as if the person were powdered. In adults and aged persons the disease appears to be dependent upon the loss of hair, which would seem to expose the scalp to atmospherieal vicissitudes. Although the existence of this disease occasions annoyance, yet it is only a slight though often an obstinate affection. It is easily distinguished from other eruptions of the scalp; yet, when seen in early life, it has been mistaken for other affections, and may then be a source of great annoyance in families. It has been mistaken for porrigo furfurans, which has been admitted into the nosology of Alibert under the title of teigne furfurans, and in that of Bateman under the term porrigo furfurans. Upon what principle it has been so admitted I do not profess to understand, for no pustules can be perceived, which are the essential character of porrigo. Even without a very minute examination it can scarcely be confounded with chronic eczema; and if there were the least doubt on the subject, we may wait for the production of the elementary lesion. But if we observe large, thick squamæ, resting on an inflamed base, and near them a more or less abundant exhalation of a serous fluid, it is not pityriasis; and, if we use a lens, we shall distinguish at the circumference of the patches, vesicles.

A soft brush, no comb, cleanliness, and short hair, are the most effectual means of getting rid of this disease.

LEPRA.

Lepra of the scalp, that is, confined to the hairy scalp, is sometimes, though uncommonly, seen. It presents itself in the form of small red points, projecting somewhat above the level of the surrounding integument; and these points may acquire the size of a split-pea; they are surrounded by a thin scab, which does not adhere very closely, and soon falls off. These small elevations are ranged in a more or less perfectly circular form; the squamæ become thicker, and there is then observed a circle, with raised edges, a disc, with a comparatively depressed and healthy centre. Now and then it happens that the centre is also affected; and the ordinary features of the disease are, to a certain extent, masked: this is commonly a consequence of the coalition of several patches which become confounded one with the other. The circle is in this way enlarged; but the centre participates in the disease. In time the elevations become more decided, and redder, the squamæ more numerous, and the cuticle thickened.

This disease, left to itself, sometimes makes little progress for months, and the general health seems to be undisturbed; but commonly it extends, and the itching is extremely annoying. The influence of season upon this disease is very remarkable; in one case it will yield to the cold of winter; in another, to the heat of summer; in another, to change of climate, or habits; in another, to some acute disease; but usually the disappearance is only temporary.

Diagnosis.—You ought to have no difficulty in the diagnosis of this disease; it has, however, been mistaken for herpes circinnatus, and for porrigo scutulata. Sometimes the herpetic vesicles are so small as to be hardly perceptible; and when shrivelled, there is a slight exfoliation, and a reddish base; but if, on the one hand, you carry in your recollection the central depression, the projecting circle, with the uniform surface, and the debris of vesicles, on the other, little difficulty can occur; and this little must soon be dissipated; for when the vesicles of herpes are shrivelled, the disease is on the eve of cure. When the scabs of porrigo scutulata have a red annular surface, it may be mistaken for lepra; but this cannot last long; for soon the nature of the scabs, in fact, their presence, the change of the bulb, the contagious character—set between porrigo and lepra a broad line of demarcation. But even in this transient condition, when porrigo presents a red circle without scabs, a practised eye has no difficulty in detecting the disease.

Treatment.—With respect to treatment, it should be, in most cases, local and general: local means alone will often produce a very marked amendment; but they will not often cure. The exhibition of small doses of sulphur, with magnesia, I have found decidedly advantageous; but, at the same time, purgatives should be administered, so as to procure liquid evacuations. I am not sensible that mercurial have any marked advantage over saline purgatives. When cases have existed long, it will be found useful to exhibit occasionally other alkalies, such as liquor potassæ, the decoction of dulcamara, the effects of which are very uncertain; the preparations of arsenic, carefully watched, are often beneficial; and sometimes intermitting it with Tinct. Lyttæ will accelerate the cure; the circles will begin to break up, and the cure is then sometimes extremely rapid. With respect to external applications, although those of a stimulating nature are most commonly applicable, yet, if the itching be great, and the irritation inconvenient, we must sooth, or even apply leeches, in the neighbourhood of the part; but when the irritation is not considerable, the itching not very annoying, I am accustomed to use, with great benefit, the sulphuret of

potash lotion; but stimulating applications are most usefully made in the evening, and washed off in the morning. I have also used, with great satisfaction, calomel ointment, ʒj. ad ℥j.; as also an ointment composed of ioduret of sulphur, ℈j. to ʒj. ad ℥j., and one of the proto-iodide of mercury, 10 gr. to ℈j. to ʒj. Occasionally more energetic stimuli will be required to modify the vitality of the part: the proto-nitrate of mercury brushed over, the tartar emetic ointment, and even a blister, will advantageously effect our object.

IMPETIGO.

Besides the cases of impetigo of the scalp which I have shewn, I must direct your attention to the cases before you; the one, a case of Impetigo sparsa; the other, Impetigo figurata. You see, in the former case, there is a pustular eruption, that these pustules are followed by thick, rough, yellowish scabs, and that the pustules are scattered; in the latter they are agglomerated, occupy a considerable, but circumscribed, surface, and that, at one point, the surface is oval, in another circular. The I. figurata, in this case, as in most others, occupies the face, particularly the cheeks; occasionally, however, it is seen in the limbs, or even on the trunk. Nineteen cases out of every twenty I have observed here, have occurred in children; and there has been no very evident constitutional disturbance. It may be presented in several points at the same time; and the small pustules very speedily succeed to the patch of inflammation: often a couple of patches will coalesce, and then the form is irregular. Sometimes on the second days, but sometimes not till the third, these pustules open; then the itching, heat, and tension, increase; the fluid is abundant, soon concretes, and forms yellow semi-transparent gum-like scabs; the oozing continues, the scab thickens, and covers the inflamed surface. In this scabby state the disease may remain two, three, four, or more weeks. When there is no re-production of pustules, the itching and heat diminish, the scabs are gradually detached, the exposed surface is red, and sometimes cracked; from these cracks a fluid escapes, which again concretes. When all the scabs are detached, the surface remains long, red and irritable, and a slight increase of irritation may re-produce the disease, which may, in this way, be continued for months, or even years. This happens especially from imprudent feeding, and the improper use of stimulating applications. Impetigo figurata is rarely seen on the limbs, or on the trunk. When it affects the lower limbs, the surfaces are generally large and irregular; in the arms they are smaller, and circular.

In the lad before you, the other form, the I. sparsa, you see, differs in the pustules being irregularly scattered. This variety very commonly appears in autumn, and extends through the winter, and disappears with the approach of spring. Contrary to the *figurata*, it manifests the greatest predilection for the limbs, especially the flexion of joints. I have much more frequently known it affect the legs than the arms. The pustules are developed, as in the other variety, but, instead of being grouped, they are irregularly spread about; they itch very much, and soon break and scab.

Causes.—Certain external causes may produce impetigo; it occasionally appears on the hands of people who habitually handle irritating substances. Persons with delicate skins are most frequently the subjects of it.

Diagnosis.—It is scarcely possible to confound this disease with eczema; the pustules and the pustular scabs are so distinct from the scales and vesicles of eczema. When impetigo affects the chin, it may certainly be mistaken for mentagra; but then the pustules of the former are smaller, yellower, and nearer together, the oozing is more considerable, the scabs are thicker, greenish-yellow, and semi-transparent. The pustules of mentagra are larger, less yellow, isolated, more raised than those of impetigo, and the scabs are not re-produced, unless there be a new eruption. Though impetigo does not interfere with life, it is a very troublesome, disagreeable, and often very obstinate disease; and when it occurs in debilitated or old persons it is more serious.

Treatment.—The treatment we employ when the surface affected is not very extensive, nor the irritation great, is to apply poppy decoction, and to give acid drinks; and, in slight cases, this is sufficient. If the surface be considerable, and the irritation great, the patient being otherwise in good health, a small bleeding will be found very advantageous. Sometimes leeches in the vicinity are very beneficial. Still the abstraction of blood is with us an exception; emollient applications, and acidulated laxative medicines, are usually sufficient to subdue the irritation; when this is done, we use acid, alum, or give lotions. An occasional case will, however, resist these means. The lad whose tendo Achillis I cut for pes equinus, presents a very obstinate instance of this disease; in him I tried the acid drink, the purgative, and the bathing system; I took blood locally and generally; it resisted all, and at last yielded to arsenic. If it had still resisted, I should have applied the hydrochloric acid, or the nitrate of silver lotion, upon the diseased points, with a view to

modify the vitality. In such cases I have known a little blister to the part to succeed in producing the necessary change.

PSORIASIS AND LEPRA.

The next order of disease which I am able to illustrate is the squamæ, and of these I have several cases of lepra and psoriasis to bring under your notice. You see, in each, there is chronic inflammation of the skin; and upon the inflamed surface, laminæ of an inorganic substance, dry, more or less thick and adherent, and of a greyish white colour. It is these lamellæ which have obtained for those diseases the generic term of squamæ; when they fall off you see the skin raised, red, and inflamed. These diseases are chronic, usually slow in their course; but sometimes the development of inflammation and squamæ will happen in the course of three or four days, and may last for months or years.

With a very little knowledge it is hardly possible to fail in the diagnosis of these diseases: red and slightly raised points are observed, and are soon covered by scales; these points may be arranged in patches, or circles the latter, if near each other may coalesce, and their original form may thus become considerably changed: commonly no constitutional disturbance is observed, unless large surfaces are almost simultaneously affected; and the patient is unaware of the existence of any thing wrong until some itching directs his attention to the spot.

Although lepra and psoriasis may affect any part, or, indeed, the whole surface of the body at the same time, they most commonly affect the limbs.

These diseases are not contagious; but whether or not they are hereditary is doubtful. All classes and both sexes suffer from them; but children suffer much less frequently than adults. Although some persons are of opinion that in particular seasons the development of these diseases is most general, our registers do not support these conclusions; so much I have observed, that they are apt to re-appear at similar periods in successive years, and that spring and autumn furnish rather a larger number than other seasons.

It is usual to make a distinction between these two diseases; to say that lepra is characterised by circular patches, with raised edges, and depressed centres; but then, as you see in the patient Pemberton, many circles may coalesce, so as to constitute large irregular psoriasis-like patches; and in psoriasis guttata, where the patches are usually rounded, the difficulties are further increased, because the raised margins and depressed centres are often equivocal characters. When lepra is in progress of cure, when the circles are broken up, the resemblance to psoriasis guttata is often very strong. I think it would be better to abolish these small, and often wanting, distinctions between two diseases, which at best have no other evident distinguishing marks than the form of the patches, the depressed centres, and the raised edges. I do not mean to say that, when the characters of both diseases are well defined, it is not easy to distinguish the one from the other, but, practically, it is found that these distinctions are often difficult. Both diseases are most commonly seen in the limbs, particularly in the vicinity of the joints, and especially those of the knee and elbow; and it is in these situations more particularly that patches coalesce, are agglomerated, and confounded. Still I readily admit that, when both diseases are well defined, the distinction is not difficult. Lepra usually begins by small red points, slightly raised above the surrounding integuments; these red points are soon covered with scales; and they arrange themselves in the form of more or less well-defined circles, with raised edges; the centre of the circle is generally unaffected. Psoriasis is characterised by irregular patches of varying extent, sometimes very large, slightly raised above the surrounding surface, and covered with whitish thin scales: in psoriasis guttata the patches are round, but small. Those are the only material differences between these two diseases in their common form; the general symptoms similar—dependent upon the extent of surface implicated; the part of the body affected similar, the progress of the diseases alike, and the treatment the same. It is for these reasons I prefer to consider both together, rather than place any additional difficulties in the way of your acquiring a knowledge of their nature and treatment. When the scales fall, and are unceasingly renewed, the surface from which they are thrown off often becomes very red; at first it is smooth; but when the disease has existed long, the surface often becomes cracked.

These diseases may remain long nearly stationary, and without exciting any disturbance in the general health; but after a time they produce a stiffness around the joints near which they may be seated: left to themselves, they may disappear for a certain time, but are often re-produced: whether they are dissipated under the influence of medical treatment, or by natural causes, it is a slow process. The squamæ are more slowly formed, they ultimately cease, and the disease disappears from the centre towards the cir-

cumference; if circular patches exist, the circle is broken at different points, and the patch ultimately vanishes. These diseases may be developed at all seasons; but we find the cases rather more numerous in spring and autumn. It is said, by some authors, that these diseases affect men more than women; by others, it is said that they affect equally both sexes: my experience here in the last three years has shewn a preponderance of nearly three to one in favour of females. It also induces in my mind a conviction that no order of skin diseases is more directly connected with digestive derangement than these. You rarely see a case in which acidity or other symptoms of indigestion are not present, and have for some time existed. You rarely find a case in which the cutaneous inflammation is not aggravated by any increased stomach uneasiness.

Diagnosis. — You may, though rarely, mistake lepra for porrigo scutulata when the crust is fallen off, and only a red ring appears; but then it is rare to see porrigo scutulata on the body. The round form occasionally assumed by tubercular syphilis may now and then throw a doubt; but the colour and the history of the case will determine. It may look like psoriasis gyrata in process of cure. Again, the patches of lichen circumscriptus are now and then like a patch of psoriasis; but the central papulæ in lichen can always be seen. Some cases of chronic eczema may also be mistaken for psoriasis; but then, in eczema, the scales are yellowish, and, at the circumference, vesicles are found.

These diseases are both obstinate, but not dangerous: in old persons, or when they have existed long, they are especially difficult to eradicate.

Treatment.—In the treatment of these, as in other obstinate diseases, a great variety of medical agents has been employed. If the patient be young, strong, and vigorous, and the progress of the affection rapid, the skin red, inflamed, the pulse full and bounding, general blood-letting is distinctly indicated, with very moderate diet, baths, and aperients. In these cases I have rarely known any good to result from local bleeding. If the patient be old, debilitated, broken down by misery and privation, if the local inflammation be inconsiderable, you must use means for restoring the general health as a preparation for active treatment. Having, in the one case and the other, taken these precautions, we may proceed to use appropriate internal and external means of treatment. External means are usually insufficient; yet I have known white precipitate ointment alone to cure a case which, for nearly a year, had resisted the most energetic treatment; but then it was rubbed on twice a day for a very considerable time. Pitch and tar ointment, often employed in this country, never does good, except in some very chronic cases which are improved under the stimulus; but less stimulating ointments will often succeed. At the same time, external means alone cannot be relied on; the amendment will, in nineteen cases out of twenty, be temporary only; and even after apparent cure by such means, the disease will often re-appear in a few weeks. As auxiliaries, and towards the end of internal treatment, they are frequently useful. An ointment of ioduret of sulphur, in the dose of fifteen grains to half a dram to the ounce, will frequently be found useful under those circumstances; the vitality at the part is increased, the scales fall off, and the raised integuments give way. Simple baths will sometimes lessen the irritation, but will do no more; when the inflammation of the part is abated, salt water, or the sulphur fume bath, will often be found useful; but I think the amelioration so produced is often only temporary. We cannot, therefore, rely on external means to cure diseases so obstinate as those of which we have been speaking, and, occasionally, even the most energetic internal means will fail. The mezereon, hellebore, and rhus radicans, were strongly recommended some years ago; but they do not justify the commendations with which they were ushered in. They do very well as auxiliaries—may produce a temporary improvement, but very rarely a cure.

The dulcamara has occupied a very important position in the treatment of these diseases, especially lepra: it was strongly recommended by Dr. Crichton, of Westminster Hospital, and in France, by Carrère; there cannot be a question that the cases detailed by Crichton are good evidence of its usefulness in many cases of lepra vulgaris. I have given it largely and frequently, in this house, without the decidedly marked effects pointed out by Crichton. I have given the decoction to the amount of a pint and a half daily, for a month, without any very decided effects either on the disease or the person; in other cases, such doses have produced nausea and headache. I have cured lepra with it alone; but in more cases I have failed. I have made it a vehicle for liquor potassæ, and for nitric acid, in lepra and in psoriasis, with better effect.

A *purgative treatment* will, in most cases, exercise a salutary influence over the disease in its early stage; but when very chronic, I have never seen much good from it. Purgative doses of calomel twice a week, with or without jalap; in some

eases, of the sulphate of soda; in others, aloes or gamboge, so as to procure copious watery stools, do well; but on the whole, calomel, I think, succeeds best as a purgative.

In debilitated or aged persons, who could not bear systematic purgation, as well as in those persons who have suffered long, and not improved under purgatives; whose digestive and urinary organs are in a satisfactory state, the *tincture of cantharides* has often been found a valuable remedy. I usually commence with five drops three times daily; this I gradually increase until, in several cases, the dose has been raised to twenty, twenty-five, or even thirty drops three times a day; but as the dose is increased, the digestive and urinary organs must be carefully watched, and, if they are irritated, the medicine must at once be suspended.

Arsenic may be used in obstinate old cases which have resisted other means, and where the inflammatory action is very low: I also use the liquor arsenicalis, commencing with three drops, and carrying it up to twelve three times a day. I never exceed the latter dose; and even in that quantity I think it prudent to intermit the remedy every eight or nine days. Gastro-intestinal disturbance I once saw when the patient was taking only six drops; but it was soon dissipated. The first effect of arsenic and cantharides upon the disease is to increase the action; the patches become hot, the centres soon give way, the circle in lepra breaks up, and in six weeks or two months a case which has resisted for years will sometimes get well. In these cases, when the eruption has disappeared, it is wise to use occasionally the warm or vapour bath, and to apply warm frictions to the surface, for the purpose of keeping up the proper function of the skin, and lessen the chances of relapse.

In psoriasis especially, when much benefit has been derived from the means employed, and when most of the patches have disappeared, two or three may remain, and obstinately resist. Here the local action is the mischief, and stimuli must be applied to modify it. First, friction may be tried; that failing, the proto-iodide of mercury ointments may be tried. In some cases tartar emetic ointment or blisters may be necessary to produce the desired effect, and it may be necessary to apply blisters again and again before the required modification is produced.

CONTRIBUTIONS TO SURGICAL PATHOLOGY*.

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ANEURISM OF THE CAROTID ARTERY.

[Concluded from page 878.]

On the 15th April, 1831, Mr. Green, in St. Thomas's Hospital, tied the common carotid for the cure of an aneurism, situated (as he believed) at the point of its division. The patient was a man advanced in life, being 65 years of age: the tumor had existed from the preceding Christmas, was slow of growth, and had attained only to the size of a walnut; in other respects the symptoms detailed bear a strong resemblance to those observed in the case just related. On the ligature being tightened, a manifest and instantaneous diminution of size took place in the tumor and in the force of pulsation, which was yet distinguishable; but the patient having been carefully removed to bed, in about an hour this had ceased altogether. It is worthy of remark, that doubts were entertained by many who carefully observed the case as to whether the pulsation ever ceased completely.

"On the twenty-fourth day the ligature separated, the noose thereof being perfect and firm, and the dressings having been applied to the wound daily. This has some exuberant granulations, not occupying more than half an inch, which have been touched with argentum nitratum. A feeble pulsation has been constant since the 20th April, (the fifth day after the operation,) and we are of opinion that it has latterly been more vigorous; the tumor itself is very materially diminished, but not to the degree that, at this distance of time from the obliteration of the canal of the vessel, we should reasonably expect."

"May 31st. Arterial pulsation has become more distinct in the tumor, but is yet weak. It is supposed, from the situation of the latter, (at the bifurcation of the common carotid,) which is favourable to such, that a communication exists in that part, between the external and internal divisions."

"June 14th," (two months after the operation). "The aneurismal sac has grown larger within the last fortnight, and the pulsation remains equally, if not more powerful."

"July 28th. Patient is suffering from suppuration of the right tonsil; a diffused

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* From the Dublin Journal for March.

swelling has taken place externally upon the neck, a little below the angle of the jaw. The tonsil was opened, and discharged pus freely."

"September 20th. The above local symptoms subsided in due course, but the aneurismal swelling retains the same trifling pulsation."

I have merely extracted, from the printed report of the above case, the points in which it bears some resemblance to that of my patient, and which seem to have some reference to the locality of the disease. It was supposed by Mr. Green to exist at the bifurcation of the carotids, a spot equally favourable with the internal itself for the return of pulsation through the medium of the cerebral circulation. This pulsation did return; and, according to the opinion of some, never totally disappeared. About the 28th July, symptoms occurred which might have been occasioned by the suppuration of the sac, and at the end of five months pulsation remained;—the disease had not been cured. The case seems to hold a middle place between that of Elizabeth Rourke, in which the progress of the disease was extremely slow, and the contents of the sac nearly solid, and that of Markay, which had proceeded so very rapidly, and in which there was probably no coagulum at all. It is to be regretted that the appearances of the tumor, in relation to the mouth and pharynx, were not described, and its ultimate result not ascertained.

Thus far, however, I have endeavoured to show, that aneurisms of the internal carotid are unfavourably placed for the accomplishment of one part of the cure; that a ligature on the trunk does not entirely cut off the impulse of the heart from the diseased vessel; that such impulse may be conveyed through the circulation of the brain in its normal state; and that the effect of this impulse must be, to disturb the blood within the sac, and delay, if it does not prevent, its coagulation.

I have now to direct my attention to another circumstance of at least equal importance. In a limb, when the aneurismal sac becomes distended with blood after operation, the pressure exercised thereby must be directed against the injured vessel; the structures external to and surrounding such sac are, many of them, inelastic, all more or less resisting. They will not permit a growth or extension of the tumor in any direction towards them; and, consequently, when the sac is filled, and more particularly when its contents are solidified, it must not only press against the ruptured vessel, but compress it to an extent and degree to occasion its obliteration. But with respect to the internal carotid the case is widely different. However covered with fascia, and muscle, and skin, and other resisting structures externally, it is wholly unprotected in the direction of the pharynx, for, on making a vertical section of the head and neck, and dissecting from within outwards, I find that the internal carotid is very close to the pharynx. In its passage upwards, from the bifurcation to its entrance into the skull, it obliques slightly backwards and inwards, having behind it the sympathetic nerve and first cervical ganglion, where it rests against the spine: external, it has the styloid process, the three styloid muscles, the digastric, the mastoideus, and the different layers of fascia; a little in front it has the stylo-pharyngeus muscle, but internally, or towards the pharynx, it has nothing but the mucous membrane, the contrictor of the pharynx, some very loose cellular tissue, and the twigs of the superior laryngeal nerve; thus the aneurismal sac has ample room to grow and increase inwardly, and, consequently, the pressure it is forced to make on the opening in the vessel may be so trifling as not in any way to lead to its obliteration. This circumstance may explain (although in Mr. Green's case it does not appear that the mouth and pharynx were ever examined) why that case proved to be what Scarpa might term an imperfect cure; and why, in the case of Markay, in five weeks after the vessel was tied, and the direct force of the heart cut off, there should have been no advance whatever in the process by which the artery might be obliterated. It appears curious that the position of this vessel, with respect to the pharynx, should not have attracted more attention in the examination of aneurismal tumors; for, reasoning from the anatomy of the parts, I should be disposed to believe that the symptoms of pulsation would always be most clearly observed from within. It was so in the present case; and I have since had an opportunity of seeing it under circumstances where it might be still less expected or looked for.

A young girl, named E—— M——, was admitted into the Meath Hospital, with a varicose aneurism, situated at the angle of the jaw, and extending downwards a short way along the course of the external jugular vein. It became very large and prominent when pressure was made on this vessel below, so as to interrupt the current of blood; it became then excessively painful, and exhibited the usual thrilling sensations both to the finger and the ear; but when looked at from the mouth, a strong and continued pulsation, together with considerable tumefaction, was obvious to every eye. This disease had been produced by a stab of a scissors, inflicted seven years before, and no very decisive treatment was adopted for it in hospital. In fact, the exact

nature of the lesion was not understood: and it was only matter of conjecture, that a communication had been established between the external jugular vein and the internal carotid artery, with the intermediate existence of a varicose aneurismal sac. The case, however, is pathologically interesting, as affording an illustration of the facility with which such tumors may grow and increase internally, or towards the mouth.

Whilst on this subject, I may be permitted to notice a circumstance in the case of Markay, in explanation of which I confess myself unable to form even a remote conjecture. Why did the blood remain in a fluid state within the sac during five weeks? Before the artery was tied, and whilst a large current was forced into the sac with the full strength of the heart's action, it is not difficult to conceive that such constant and violent motion might interfere with the process of coagulation; but that after such an interval, the blood, with the exception of one or two very small coagula, at the bottom, should have been found perfectly fluid, was scarcely to have been expected, and must have had a very unfavourable influence on the success of the operation. Yet such was the case, and it is no easy matter to explain why it should have been so. But the difficulty of solution attendant on this question leads me to propose another. Is there a pathological difference in the blood of different individuals, giving to that of one a greater or less tendency or disposition to coagulate, than to that of another? If there is such a difference of condition or constitution, a knowledge of the fact, and more particularly of the causes or circumstances that lead to its production, might prove of incalculable benefit in the management of disease in general, but more particularly those of the circulating system. And that there is such a difference, I am strongly disposed to believe, although being totally unprepared with satisfactory proofs, I dare not offer it even as an hypothesis—but rather as a suggestion that may lead others (as opportunity may offer) to investigate the pathology of the blood as promising to lead to invaluable practical results. That the blood of individuals suffering from different diseases will exhibit different phenomena in the quickness with which the coagulum is formed, and the degree of firmness and solidity it reaches, no one will be disposed to deny, but the point to which I wish to direct attention is, that the blood of a person apparently in a healthy state may not coagulate under circumstances wherein that of another individual would almost certainly do so.

Some years ago, a man was admitted into Meath Hospital, having received a stab of a sharp-pointed shoemaker's knife about an inch below the right sterno-clavicular articulation, by which the internal mammary artery and vein were wounded. These vessels poured out their blood continually, and in such abundance, into the cavity of the pleura, that the lung became dreadfully oppressed, and it was deemed advisable to perform the operation of paracentesis on the fourth or fifth day after the receipt of the injury. The wound made in the operation was large, in the expectation that it might facilitate the escape of any coagulum, but the precaution was found to have been unnecessary, as the blood had remained in a perfectly fluid state, and flowed away with the greatest facility. The quantity of blood thus lost was enormous: it must have amounted to some quarts: and as the wounded vessels still continued to bleed, it is scarcely necessary to add that the patient soon died. On examination after death, a good deal of fluid blood was found in the cavity of the pleura, but not a particle in the state of coagulation. Is it not reasonable to conclude, that in this case there was some peculiar condition of the blood that rendered it incapable of coagulation? and might not this have been one cause of the continued and unceasing hæmorrhage, without the slightest effort on the part of nature to arrest it?

On the 5th August, a man named James Wilson was admitted into the Meath Hospital, with an enormous aortic aneurism.

Three months previously he had perceived a tumor of the size of a hazel-nut above the clavicle, and close to the sternum, which tumor increased in size daily, enlarging from below upwards: on admission it occupied the anterior and right side of the neck, extending as high as the thyroid cartilage, and slightly displacing the larynx. It pulsated violently. From the symptoms, the history of the case, and careful stethoscopic examination, it was decided that it was an aneurism of the aorta, and that palliative measures only should be adopted. He remained in hospital until the 8th September, when the tumor burst, and the patient died in a few seconds, with an awful gush of blood.

Post Mortem Examination.—On looking at the situation occupied by the tumor during life, it appeared to have shrunk and collapsed, and instead of being elevated, there was a very large cavity, in the centre of which was a dark spot marking the place at which it had given way. The sac was eight inches in its long diameter by five in the transverse at its widest part, and sprung from the aorta at the root of the innominata, passing up behind the

clavicle, which was in part carious. Not a particle of lymph, or fibrine, or coagulum of any description, existed in the cavity of this immense sac, although upwards of four months had elapsed since the commencement of the disease, and the tumor had not increased with any very extraordinary rapidity.

From these cases, and from other facts and observations, with which it is unnecessary to swell this paper, already pushed to perhaps a tedious length, I have been led to believe that a condition of blood indisposing to coagulation, may exist in individuals otherwise apparently healthy, and exhibiting no symptom of such an abnormal state. If such an opinion be correct, and if (as is generally conceded) the coagulation is an active agent in the suppression of hæmorrhage, and a necessary part of the process in the cure of aneurism, few subjects can be submitted to the attention of the pathologist of greater apparent importance, or more likely to repay the trouble of investigation.

OBSERVATIONS ON THE EMPLOYMENT OF THE ACTIVE PRINCIPLE OF ELATERIUM IN MEDICINE.

By Golding Bird, M.D., F.L.S., &c.

Physician to the Finsbury Dispensary, and Lecturer on Nat. Phil. at Guy's Hospital.

(*For the Medical Gazette.*)

Whilst every practitioner, whose sphere of observation is not too limited, is willing to admit the great value of elaterium as an hydragogue cathartic, especially in various forms of dropsical accumulations, in which the kidneys are not easily acted upon, or where, from the nature of the disease, as in dropsy with kidney degeneration, it would be unwise or dangerous to stimulate those organs by diuretics, too many have entirely resigned the use of this valuable drug, in consequence of its being an *uncertain remedy*, sometimes acting with inordinate violence, and occasionally, on the other hand, being nearly inactive. That this frequently arises from its injudicious administration can scarcely be denied, as many practitioners constantly commit the error of giving a fixed and definite dose, and expecting all the effects the medicine can produce from this mode of exhibiting it. Elaterium ought always to be administered in small doses, as from the sixth to the fourth of a grain, in combination with bitartrate or sulphate of potass, if the form of powder be chosen, and repeated every one or two hours, until *copious watery* evacuations are produced, or at least until all true fæculent matter has ceased to appear in the stools. In this manner most of the inconvenient effects attributable to elaterium may be avoided.

Even with these precautions it occasionally occurs that the practitioner is disappointed in the action of the drug; sometimes the first dose produces distressing purging and vomiting, and occasionally even five or six repetitions produce no effect beyond one scanty evacuation. There is no difficulty in understanding this circumstance when it is borne in mind, that the elaterium is merely a fæculent deposit, containing very varying proportions of active matter, according to the amount of pressure used to express the juice from the fruit, and perhaps to other circumstances over which the druggist has less control. Hence, on submitting different specimens of elaterium, although precisely resembling each other in physical properties, to analysis, very different proportions of active matter have been detected, varying from only a few grains per cent. to nearly half the weight of the crude drug, according to some experiments made by my friend, Dr. Hargrave Brett, of Liverpool. This fact readily explains the very discrepant results obtained by different practitioners who have administered crude elaterium, and certainly opposes an objection to its general employment in private practice, where, from prescriptions being prepared by different druggists, it often necessarily happens that no two preparations are identical, or even approach each other, in the quantity of really active matter. This, of course, is not so serious an annoyance in hospital and dispensary practice, because, as large quantities of drugs are purchased at a time at these institutions, a particular specimen may last for months, or even longer, and hence the inconstancy of action alluded to is never so obvious as it is in private practice.

Elaterium has been repeatedly analyzed. Dr. Paris states its active ingredient to be a green matter, which he termed elatine; but this substance evidently consists of a mixture of the really

active ingredient, elaterine, with green resin. Subsequently M. Morrus discovered the existence of a white crystallizable matter in elaterium, a formula for preparing which is given by Soubeiran*. Dr. Brett, who has devoted much pains to this subject, informs me, that the best mode of preparing elaterine is to boil the crude drug in alcohol, and evaporate the fine green tincture thus obtained to dryness; a mixture of green resin, with a bitter matter soluble in water and elaterine, is left, and on digesting the whole in a solution of potass, the two former substances are dissolved, and the latter is left in the form of a white crystalline powder.

Elaterine exists in fine white crystals somewhat resembling sulphate of quinine, and which, under the microscope, appears to possess a prismatic form; it depolarises light, and hence does not possess the primitive form of a cube or octohedron. Its taste is bitter, it is scarcely soluble in water, it dissolves in boiling alcohol, and if in excess, is precipitated by cooling (℥ij. of rectified spirit are barely sufficient to hold one grain in solution when cold); it dissolves in ether in small quantities only; in spiritus etheris nitrici it dissolves with the aid of heat. Water precipitates elaterine from its solutions in alcohol and spirits of nitre, unless it is present in very small quantities; in liquor potassæ it does not dissolve, at least in any appreciable quantity, nor does it appear to yield to the solvent power of dilute acids.

From a series of experiments on the most convenient mode of forming a preparation of elaterine for medicinal purposes, so as to permit its administration in minute doses, the following formulæ were ultimately adopted. I may remark that the solution directed by Soubeiran cannot be prepared by the druggist, as the mixture of spirit and nitric acid, ordered in his formulæ, does not retain the elaterine in solution.

Solutio Elaterinæ.

℞. Elaterinæ, gr. iv.; Spiritus rectificati, f℥iv. Solve ope leni caloris. f℥ss. continet gr. 1-16 Elaterinæ.

Pulvis Elaterinæ compositus.

℞. Elaterinæ, gr. iv.; Potassæ Bitartratis, ℥x. ℈ij. Misce accuratissime ℈ss. continet gr. 1-16 Elaterinæ.

* Nouveau Traité du Pharmacie. Paris, 1336. i. p. 560.

After a number of trials, 1-16th of a grain of elaterine appeared to be a fair dose to commence with: this quantity I prescribed in one or other of the above formulæ in several cases of ordinary constipation, directing it to be repeated every two hours until some effect was produced. Two, or at most three or four doses, always proved active, producing copious watery evacuations without griping, or any inconvenience, except in some cases vomiting, where great gastric derangement had previously existed. During the action of the medicine, slight increase in the frequency of the pulse usually occurred, a circumstance generally observed during the administration of elaterium. These experiments were made with a specimen of elaterine kindly furnished me by Dr. Brett, and prepared by him in the Laboratory of the Liverpool Apothecaries' Company; as this stock, however, soon became exhausted, I had some prepared in London, so as to afford a sufficient supply for further experiments on its therapeutic action.*

The following are very brief notes of two cases in which I administered the elaterine, and which may probably be interesting, as illustrating its general mode of action, bearing in mind that the only points noticed in these cases are those which bear upon the therapeutic agency of the drug.

John Walker, æt. 52, admitted Jan. 25th, under my care, at the Finsbury Dispensary; he has been a carpenter from childhood, and enjoyed tolerable health until two years ago, when, after suffering severe moral depression, by a reverse in circumstances, he went to his native province, Rutland, and accidentally fell over a precipice about 50 feet high, and struck himself across the loins; from this he recovered, and did not complain of any thing except *profuse sweating*, until August 1839, when this symptom suddenly ceased, and was almost immediately followed by a copious discharge of urine, which has continued up to the present time. When I saw him he was greatly emaciated, having lost 4 stone weight since August, and he presented all the general symptoms of diabetes mellitus. His

* This was prepared by Mr. Balmer, operative chemist, 82, St. John-Street Road, who supplied the Finsbury Dispensary with the solution and powder before alluded to. This gentleman informs me that the best specimens of elaterium he has met with yielded 33 per cent. of elaterine.

urine was, however, free from sugar, and possessed a specific gravity of 1·011; he passed about four quarts every night, and rather more than this quantity during the day; all sexual power was completely gone; bowels constantly and obstinately confined. After some preliminary treatment, the following medicines were prescribed:

Feb. 1.—Sol. Elaterinæ, f℥j. ex Aquæ, f℥j.; 2dis horis donec alvus bene soluta fuerit.

℞ Pulv. Antim. Co. gr. iv.; Quiniæ Sulph. gr. j.; Hyd. c. Creta, gr. iij. ter die.

Feb. 4th.—The third dose of his mixture acted violently; the first two motions were scybalous, and mixed with blood, the next was like white curd, and the last nine like mere water. These fluid stools did not coagulate by heat. Has passed but two pints of urine during the last twenty-four hours, and some perspiration appeared for the first time during four months.

He continued to improve until Feb. 10th, when constipation again occurred, and his urine increased to eight pints in twenty-four hours.

Rep. solutio Elaterinæ ut Feb. 1.

He took as before three doses; he was briskly purged several times, and his stools were like mere water, being nearly free from colour or odour; his pulse rose four beats in the minute during its action; and his urine fell below the natural standard. The first dose of the medicine produced vomiting, the matter vomited being intensely bitter and green.

It is unnecessary to pursue this case further, as the administration of the elaterine invariably relieved the patient's symptoms; and as the further details are rather interesting in connection with the curious disease under which the patient laboured, than from any other circumstance, it would be out of place to occupy the pages of the Medical Gazette with it, at least on this occasion.

William Bannister, æt. 44, admitted, under my care, at the Finsbury Dispensary, on January 7th, 1840, for an acute attack of anasarca, with coagulable urine, traced to exposure to cold. His skin was excessively hot and dry, and his symptoms resembled those of an attack of fever; for which he was in my absence treated. When I saw him on January 15th, his face, hands, ankles, and loins, were œdematous, his urine was scanty and copiously albuminous, skin hot and dry, much tenderness on pressure over the kidneys.

℞ Sol. Elaterinæ, f℥ss. ex Mist. Camph. f℥j. 2dis horis.

Pulv. Ipecac. Co. ℈ss. Hyd. c. Creta, gr. iv., omni nocte.

Jan. 17th.—Has taken four doses of his mixture, which produced copious watery motions, without vomiting; his skin is now slightly moist; the fluid stools were not coagulable; feels greatly relieved.

Rep. Mistura.

20th.—Took five doses, equal to 5-16ths of a grain of elaterine, which purged him violently, without vomiting or griping; his motions were pale, fetid, like colchicum stools, and contained abundance of water; urine was copious, but slightly albuminous.

Rep. Mistura.

22nd.—Took four doses, purged briskly, the last two motions very fluid; œdema vanished from his legs, remaining only about the eyes; urine more copious.

Rep. Mistura.

24th.—Took four doses, purged violently, but without pain or sickness, stools watery, but fetid, sweats copiously at night. Feels well, with the exception of weakness.

Enough has been stated to demonstrate the activity of the elaterine as an hydragogue cathartic; I shall, therefore, omit the further details of this case, which, from some remarkable circumstances connected with the chemical characters of the excretions, tending, as I believe, to throw some light on the pathology of renal dropsy, I shall most probably, ere long, lay before the profession more minutely.

I may remark that, after elaterine has been administered repeatedly to the same patient, the bowels appear to become less disposed to obey its stimulus, and a slight increase in dose is required. One very interesting circumstance I have observed attending its administration, viz. its tendency to act on the skin, and thus excite sweating, a circumstance easily explained by its powerful action on the exhalants of the bowels, and the connection between the mucous membrane of the latter and the skin.

Having now administered elaterine

in a large number of cases, I have had a sufficient amount of experience to justify my recommending this drug to the notice of my professional brethren as a valuable addition to our materia medica, not as a new, or specific remedy, but simply as an hydragogue cathartic, producing little or no irritation; if properly administered, not liable to the annoying inconstancy of action which characterizes the crude elaterium, and not producing vomiting or griping, unless considerable functional gastric or hepatic derangement is present.

22, Wilmington Square,
March 2, 1840.

DIFFICULT LABOURS.

To the Editor of the Medical Gazette.

Sir,

If you think the following cases of difficult labour, extracted from my note book, worthy of a corner in your valuable journal, you will oblige me by inserting them.—I am, sir,

Your obedient servant,
Rob. Robertson.

Aberdeen, 27th Feb. 1840.

Case of Rupture of the Uterus during Labour.

On the morning of the 17th July, 1833, I was called to attend Mrs. Ford, ætat. 40, a poor woman, the mother of seven children, residing in Ann-street, who had been in delicate health during the greater part of her present pregnancy, and was delivered of her last child with the short forceps; had been also troubled with a discharge of blood, now and then, from the vagina, for some weeks previous to my visiting her. On making an examination, per vaginam, I found the os uteri dilated to the size of a shilling, soft, and lax, through which the membranes could be felt; the pains were feeble and ineffective; bowels had not been opened for the last twenty-four hours; ordered her some castor oil, and left her, desiring to be sent for when the pains became stronger: saw her again in the evening, and found her much the same as in the morning, the os uteri still in the same state; the bowels had been opened twice since she took the castor oil. I again left her, with directions to be sent for when she got worse. I did not hear from her again until the evening of the next day, when a messenger was despatched for me. I then found her complaining a good deal of pain, chiefly in the lower part of the abdomen; says there has been a great discharge of blood from the vagina to-day; and on making an examination, per vaginam, I found the os uteri dilated to the size of half a crown, and the membranes protruding; I, therefore, deemed it proper to remain in attendance upon her. The pains again began to flag during the evening, and I could not make out the presentation: when she got out of bed, and walked through the room, they increased in force, and diminished when she lay in bed, so that I advised her not to confine herself to the horizontal posture. Towards morning they became much more severe and efficient, the os uteri dilating kindly; and when it attained the dimensions of a crown, the membranes gave way, but still I could not clearly define the presentation: the pains still increased in force and frequency. After the lapse of a few hours, not being able to make out the presenting part, I called in the assistance of a brother practitioner, who, on making a vaginal examination, was as much puzzled as myself, at first, with the presentation; but on the os uteri becoming more dilated afterwards, we were enabled to feel a large fleshy tumor, completely filling the cavity of the pelvis, and preventing any part of the fœtus from being felt; we, therefore, called in the assistance of another friend, who endeavoured to bring down the feet of the child, and it was with the greatest difficulty imaginable that one foot was got hold of and brought down; and that was only done by a bold effort, when our patient was evidently sinking, the pains having for some hours continued violent, notwithstanding she had taken a large dose of tinct. opii. As it was impossible to deliver her, although one foot had been got down, and equally impossible to get the tumor pushed up, we retired to consult, when the uterus burst, and the fœtus escaped through the rent into the abdominal cavity, and our patient expired.

On making a post-mortem examination the following day, in presence of the two medical friends who had attended the patient with me upon this occasion, and the accoucheur who

attended her in her former confinement, we found, on opening the abdomen, all the viscera healthy, the fœtus lying among the intestines, a transverse rent in the body of the uterus, and a large solid fleshy tumor closely attached to the sacrum, filling completely the cavity of the pelvis; likewise other two lesser tumors hanging by pedicles from the last lumbar vertebræ.

Remarks.—In this case, had we been able to make out the cause of the difficulty in an early period of the labour, perhaps the Cæsarean operation might have been had recourse to with a chance of success. From the very close connection of the tumor to the sacrum, we were, after the post-mortem, more convinced than ever of the futility of any attempt at pushing up the tumor above the brim of the pelvis.

Deformity of the Pelvis—Crotchet Case.

On the morning of the 17th October, 1834, I was sent for to see Mrs. Middleton, ætat. 30, residing in John-street, who had been in labour for thirty hours, and attended by a midwife. On making an examination, I found the os uteri fully dilated, the membranes ruptured, and the head at the brim of the pelvis, making no advance during a pain; I could feel distinctly the promontory of the sacrum jutting inwards, and preventing the head coming down. As there were no urgent symptoms demanding immediate interference, I left her, and returned in a few hours, accompanied with a medical friend; and there being still no advance in the presentation, and as the pulse had got up to above 100 in the minute, with heat of skin, thirst, and other symptoms of fever, the rectum and bladder having been emptied of their contents, the former by an enema, and the latter by a catheter, the long forceps were applied, but failed in moving the head from its position, and the perforator was then introduced into the child's head, the crotchet applied, and the head extracted. The woman had a protracted recovery, but ultimately did well.

Cases of difficult Labour from rigidity of the Os Uteri.

On the evening of the 2d March, 1836, Mrs. M——, Union-street, æt.35, was taken in labour of her first child: the process went on in a regular way until the os uteri attained the size of half a crown, when the membranes ruptured, the pains being regular and strong, the head presenting and advancing into the cavity of the pelvis during each contraction of the uterus. Matters went on in this way the whole of this night and next day, during which time she was bled once to syncope, and had the rectum emptied by an enema, which had the effect of removing the rigidity of the os uteri. The pains, since the rupture of the membranes, increased in force, but did not dilate the os uteri, so that the head came down to the outlet of the pelvis, covered by the os and cervix uteri, and distended the external parts so much, that I had to keep back the head with my hand during a pain; I also endeavoured, by introducing two fingers within the os uteri, gently and cautiously to dilate it a little during a pain, by making pressure against its edge, but without any remarkable advantage. She continued in this state during the whole day of the 3d, and in the evening she took 100 drops tinct. opii., which gave her rest during the greater part of the night; and on the morning of the 4th, the pains came on, but feebly, and continued so throughout the day, making no impression on the os uteri: at night they became stronger, and continued so till the morning of the 5th, without the os uteri dilating any further than the diameter of a crown; and as symptoms of exhaustion, (viz., quick small pulse, heat of skin, great thirst, with heat and dryness of the parts) still continued powerful, I called in the assistance of a medical friend. On consultation, finding that our patient had not felt the movement of the child for the last twelve hours, we agreed to perforate the head, more especially as we feared, from the state of the pains, the occurrence of severe compression of the neck of the bladder, and sloughing; I therefore introduced the perforator through the skull, and waited for half an hour before commencing extraction, during which time the bones of the head collapsed, the brain partly escaped, and, by gradual extraction, in about two hours afterwards got her delivered, and she ultimately did well.

Mrs. Creighton, ætat. 36, stout made and healthy, went into labour of her first child on the morning of the 9th May, 1837, attended by a midwife. When I first saw her, on the evening of

the 11th, the os uteri was found, on examination, to be dilated only to the size of half-a-crown, the head presenting and low in the pelvis, the pains strong, pulse good, countenance and skin natural. She had been bled from the arm by the midwife, on purpose to relax the os uteri, which was rigid; the rectum emptied of its contents by an enema; and warm fomentations applied to the external parts. As there were no urgent symptoms present requiring immediate assistance, I ordered one drachm of the tinct. opii to be added to a little gruel, and thrown into the rectum, and left her. About one o'clock next morning I was sent for again, and found her complaining of a fixed pain in the lower part of the abdomen; countenance oppressed, pulse quick, and had got no rest since I left her. Upon making another examination, I found the os uteri in *statu quo;* I therefore made her be raised up in bed, and took blood from the arm until syncope approached, the pains continuing strong all the while. I then made a gentle pressure on the edge of the os uteri with my fingers during a pain, and dilated it. After getting it opened, the pains became weak, and had no effect in advancing the presentation. From the urgency of the symptoms present, I applied the short forceps, and delivered. The mother and child have since done well; and I have attended her during another accouchement since that time, when every thing went on in a natural way.

Remarks.—I might have added many more cases of the like nature with the above that I have met with in my own practice, where delay has arisen, not so much from rigidity of the os uteri itself, as from a want of power, if I may so speak, to dilate. They are generally met with in the primary labours of women who are considerably advanced in life before becoming mothers; and it is consistent with my knowledge that this state of things has cost not a few of them their lives. In the case of Mrs. M., although artificial dilatation of the os uteri was resorted to, still, from the strength of the pains, and the rigid state of the parts at the outlet of the pelvis, and the fœtal head being arrested, it was thought proper to relieve the parts from pressure before the os uteri was fully dilated, by introducing the perforator. We had less hesitation in resorting to this means on account of the child being already dead for some time, the mother not having felt any motion for the last twelve hours. In the second case, which was terminated with the short forceps, both mother and child did well.

I have, since attending these cases, had several others of the same kind, and have resorted much earlier to artificial assistance, and have found that the uterus accomplished the delivery very easily after the os uteri was opened, no bad symptoms supervening. I have found that bleeding or tart. antimonii in these cases has little or no effect, farther than relaxing the parts; and I have known bleeding put a stop to the pains altogether. Although I cannot agree entirely with that able accoucheur, Dr. Hamilton, in limiting the duration of the first stage of labour to twelve or fourteen hours, by dilating the os uteri with the fingers during a pain in every case, still there cannot exist a doubt in the mind of any experienced obstetrician of the advantage of artificial dilatation being resorted to in cases such as I have related.

SOME REMARKS

ON

THE OCCASIONAL OBSCURITY OF ORGANIC DISEASES;

Illustrated by a Case of Aneurism of the Abdominal Aorta, undetected during Life.

By E. H. Weale, M.R.C.S.L.

Assist. Surgeon, Royal Navy Hospital, Plymouth.

[*For the Medical Gazette.*]

The obscurity of the symptoms attendant upon the most extensive structural changes, and the great ravages which organic diseases may occasionally make, without correspondent constitutional suffering, are circumstances which daily excite the wonder of the medical practitioner. How often does he see the most important changes in organs, indicated chiefly, if not solely, by irritation of distant parts, and between which, physiologically, he can scarcely trace any sympathy. Not only are such changes not attended by persistent symptoms, but the latter are occasionally capable of alleviation, or almost cure, by the employment of means directed either to their seat, however dis-

tant from that of the real disease; or, on the other hand, the suffering is occasionally diminished by medicines which we should suppose to act rather as excitants.

In many cases of organic disease the symptoms even assume a periodical form, and are thus rendered so obscure as to lead the practitioner to the use of bark, iron, &c., when the lancet would have been the measure most correctly employed. Of this remittent form, Sir David Dickson has given an interesting example in his communication to the medical section of the British Association. In a case of cartilaginous tumor of the dura mater, which occurred in this hospital, where the man died suddenly, the headache was so regular in its periodical accession, that iron was given for some time with apparent benefit, where depletory means did no good. I am induced to offer these remarks, as they seem to bear on the case which I am about to relate, and where the symptoms were those of neuralgia of the branches of the lumbar plexus, and in which a cure was apparently effected by a judicious course of tonic medicines.

The only rationale that can be offered of such remedial success, is, that the general nervous irritability is thereby so much diminished that the cause excites a comparatively trifling influence on the sentient nerves, which seem blunted by increasing health. What seems confirmatory of this view, is, that I have seen all the preparations of opium fail in relieving, or only temporarily relieve, the nervous feeling, while they ultimately increased the sensibility of the system, and rendered it more susceptible of painful impressions; and while tonics apparently had the power of arresting morbid action, or at least as far as it was dependent on increased irritability.

With the view of adding one to the many on record of such cases, I am induced to offer for your insertion an account of an aneurism of the abdominal aorta, which I lately examined post-mortem. For the opportunity of doing so, I am indebted to Mr. Roberts, of this town. This case was so obscure as to be undetected during life, and its real nature never occurred to me until I heard the symptoms which preceded dissolution; and the coincidence of which with those of a similar "Case of enormous Ventral Aneurism," published by Sir David Dickson, in the 21st volume of the Medical and Chirurgical Transactions, and of which I made the autopsia, immediately led me to a positive conviction of there being aneurismal disease and internal hæmorrhage. In the post-mortem appearances there were many striking resemblances, only that the former case was much larger, and perhaps the largest on record.

Captain D——, R. N., æt. 54, was admitted into this hospital on the 19th of June last, with a severe neuralgic affection of the left hip and outside of the thigh, following the ramifications of the anterior and crural nerve, and apparently proceeding from spinal irritation. His complaints were first referred to the origin of the first or second lumbar nerves, seven or eight years ago, when he was suffering from great mental anxiety. The pain frequently relieved and returning, and latterly extended down the thigh, as well as the left nates and testicle. His general health did not seem impaired, although he looked much older than he was. He had tried a variety of remedies, chiefly of a sedative nature, without relief, and had been taking carb. ferri in large doses. On examination, he complained also of pain over the left kidney. The pulse about 90. After some leeches he expressed himself easier. He generally sat with his thigh drawn up to his body, as if to relax the muscles on its anterior part. An attempt was made to diminish the narcotic which he was in the habit of taking, and his nights were at first restless. A gentle tonic course was adopted, with attention to the bowels; gradually weaning him from the opiate. In a month there was decided improvement, and he began to walk about a little, but felt some increase of pain excited by doing so. He then experienced slight pain over the right kidney, but the application of some leeches produced such benefit that he became capable of walking about, had a good appetite, slept soundly without a draught, and on the 20th of August, thinking himself quite well, was discharged "cured." From that time I did not see him again whilst alive. Being anxious about the case, I accompanied Mr. Roberts and made the au-

topsy, as he had cut his hand. He informed me that he was called to Capt. D—— on the morning of the 26th December, when he found him in great agony, complaining of excruciating pain in the back, pulse sunk, skin cold, and almost in collapse. Opiates and stimuli were had recourse to, and some reaction was excited, but the pain and restlessness continued. The belly became tumid, painful to the touch, and latterly tympanitic; and as he did not not make water, a catheter was introduced with much difficulty. He lingered till the 1st January, 1840.

Sectio Cadaveris, 24 hours p. m. — The body was rapidly proceeding to decomposition, the belly being tympanitic, the surface of the chest emphysematous. On section, the peritoneum was discovered to be of a deep purple hue from the effusion of blood in the subserous cellular tissue, which had caused the separation of the different processes and duplicatures of the serous sac. The stomach and intestines were carefully removed, and the pancreas was observed to be pushed forwards. On removing this and a vast quantity of semifluid blood, entangled in the meshes of the loose cellular tissue behind the mesocolon, a large tumor was brought into view, lying on the left side of the spine; to which, as well as to the diaphragm, it was firmly attached, and extended as low as the bifurcation of the iliac arteries. The aorta and vena cava rested on its anterior surface. This proved to be an aneurism of the aorta (attached to that vessel by a narrow neck), which burst just where the splenic omentum was reflected over it, and effused its contents behind the peritoneum. The difficulty of tearing the serous membrane from its attachments probably was the cause of the patient's protracted dissolution. The aorta, from its arch downwards, was laid open: its coats seemed at first healthy; when it approached the diaphragm, its inner one was thrown into longitudinal folds, and was mottled with white spots, which corresponded to atheromatous; and lower down, bony deposits in the middle coat. A short distance below the cœliac axis was the neck of the sac: the opening was oval, its edges smooth and rounded, and the lining membrane was continued into its interior for about an inch, but then became indistinguishable from the adjacent clots of colourless fibrine; at the same distance, the elastic coat became very indistinct, scales of earthy matter taking its place. The cellular tunic of the sac was greatly condensed, and laterally adhered firmly to the spine. The vertebræ, from the first dorsal to the third lumbar inclusive, formed the posterior wall of the aneurism; their bodies were deeply excavated by absorption, but the intervertebral cartilages resisted destruction. The aneurism was filled with coagulated blood, observing somewhat a concentric form of deposition; the inner part being of a dull red colour, and of a consistence like dry putty; the external layers were deprived of colouring matter, and were leathery, or imperfectly elastic. The left kidney was closely connected with the disease, was large, and its capsulse superiorly opaline, from a cluster of large hydatids underneath it. Both glands were soft and pulpy. The left psoas muscle was partially absorbed, and probably the pressure exercised on the lumbar plexus gave rise to the neuralgic symptoms. The blood had forced its way into the thorax, infiltrating the posterior mediastinum, and had also deeply dyed the cellular tissue of the scrotum. The bladder was fasciculated, the prostate gland slightly enlarged, but there was no stricture of the urethra. The testicles were wasted. All the other organs examined appeared healthy, and the deposition of fat around the heart was considerable.

Royal Hospital, Plymouth,
March 1840.

ON VACCINE LYMPH.

To the Editor of the Medical Gazette.

Sir,

The late annual Report issued by the National Vaccine Establishment pronounces an opinion upon an important point in vaccination, and also states a fact, which, if satisfactorily proved, must be regarded as a very valuable one.

Upon the *opinion* advanced, namely, that it is better for the public to be satisfied with the lymph furnished by the National Vaccine Establishment, than to seek a renewal of virus occasionally from the cow, I make no com-

ment: within the last eighteen months the experiment of new virus has been extensively tried, and a large body of intelligent medical men have had the opportunity of forming their own conclusions upon that subject, but the *fact* that the lymph distributed by the Board is really a succession from the stock originally employed by Dr. Jenner forty-three years ago,—that the records of the Establishment have been so accurately kept, that the pedigree of the virus employed this week can be traced back through a succession of 2,000 individuals to its original source, is so important, that I am most desirous of ascertaining the validity of the proof which substantiates it.

Those accustomed to gratuitous vaccination among the poor, even those who superintend institutions solely devoted to this object, are best aware of the difficulty of preserving any particular stock of virus: the irregularity of the attendance of parents with their children:—the natural and prudent desire of the surgeon to select the finest vesicle, and the healthiest child, for affording lymph without any reference to the origin of the supply:—the well-known fact that the lymph in general use is from a variety of sources:—the mistakes as to *individual* children so liable to occur at large vaccinating stations, where the appearance of the arm is the principal object of attention, all tend to interfere with the preservation and accurate watching of any particular stock of virus.

That the National Vaccine Board may have made, upon insufficient data, the statement of a fact, which, if proved, would be a most interesting one, I am inclined to suspect from the following circumstance:—In a letter published in the Lancet of July 20th, 1839, Mr. Leese, (a gentleman whose name I find in the Medical Almanac as one of the stationary vaccinators in connexion with the National Establishment,) affirms, that the lymph which he was at that time employing was originally procured from some cows in 1836; that during the three years ending in May 1839, he had vaccinated with it 6,981 patients; that he had furnished it to 1,323 medical practitioners; that he had otherwise distributed 12,112 charges, besides sending to the Government depôt, (the National Vaccine Establishment in Russell Street, I presume) 27,183 charges more!! Knowing, then, that this immense supply recently derived from the cow has actually been employed by the National Establishment, I would ask what value can be placed upon the accuracy of the statement that their principal source of supply is "the produce of the original virus furnished by Dr. Jenner, which has now passed happily through successive generations of subjects in the course of forty-three years?"

My friend, Mr. Aikin, whose papers on Vaccination I always peruse with much interest, undertook the defence of the National Vaccine Board (with what success your readers would decide) when in their Report last year so little regard was paid to accuracy in figures, that the origin of cow-pox was dated from a period of some thousand years before the foundation of the world; now if he, or any of his colleagues, could verify, as the result of their own examination, that a stock of cow-pox matter is now in use, the original of which can be traced back for forty-three years, I am sure the profession will feel under much obligation for the establishment of a fact so valuable to medical science.

I do not make these remarks from any captious disposition to detect trifling inaccuracies in the Report of the National Vaccine Board: had that document been confined to such points as could be suitably addressed to the public through the Secretary of State, for the purpose of imparting confidence in vaccination, and enforcing the desirableness of the practice, it would not be a legitimate subject for minute criticism; but when practical points of much importance to science,—some that are engaging the attention of the profession in every part of the kingdom, are decided upon *ex cathedrâ*, it is warrantable, indeed necessary, strictly to examine how far their means of information, their cautiousness of investigation, their accuracy in recording facts, be such as to impart to the Board that competent knowledge of the subject which their position implies, and their Report assumes.—I am, sir,

Your obedient servant,

J. B. Estlin.

Bristol, March 6, 1840.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Narrative of the Discoveries of Sir Charles Bell in the Nervous System. By ALEXANDER SHAW, Assistant Surgeon to the Middlesex Hospital. London, 1839, 8vo. pp. 232, with a wood-cut.

IT is not easy to ascertain when an art was first invented, or a given fact discovered. The dates affixed to inventions in chronological tables must commonly be considered as the era when the art first attracted notice, or was deemed worthy of record by historians, but by no means as the time when a profound thinker first seized on its principles. Thus, when we see it laid down that the first comedy was acted at Athens by Susarion and Dolon, B. C. 562, we are to understand, not that this was the first attempt at comedy, but that these poets were the first who gave such polish to dramatic satire as to deserve historical mention. The temple already existed; but their names were the first emblazoned in it.

But another difficulty springs up. Shall we allow the glory of invention to him who talks, but does not act; who gives hints, but does not embody them? If so, the Marquis of Worcester, with his "Century of Inventions," was the greatest of all discoverers; but, in reality, his book consists merely of one hundred guesses at possibilities; some of which have since become matters of fact, while others still appear inconceivably extravagant.

Or, what shall we say of him who invents a machine, but never works it? Most persons will say that he invented the process for which the machine was intended. In that case, Mr. Elderton invented lithotrity, or, at any rate, has prior claims to Civiale, and other foreign operators, as he figured his lithotritic instrument in the Ed. Med. and Surg. Journal for April, 1819. Yet Mr. Elderton must be content to yield in turn to General Martin and his wire.

A learned contemporary * cuts the Gordian knot in one instance, by broadly asserting that Watt invented the steam-engine; to us it seems that the simple fact of the steam-engine's having been at work in England long before Watt was born, disposes of the claim to its invention made in his behalf, however great may have been his merit in its improvement.

The controversy concerning the discoveries made by Sir Charles Bell, in the nervous system, affords an additional proof of the truth of our observations. If a good guess were equivalent to a discovery in physiology, Galen anticipated Sir Charles Bell by some sixteen hundred years, as appears from a paper read before the Medico-Chirurgical Society, in April, 1822, by our author's brother.

"I shall take the liberty," Mr. John Shaw remarks, "of trespassing still more upon the time of the Society, by making a few remarks upon a very curious question, which has particularly excited the attention of physicians in all ages, since the time of Galen.

"Why sensation should remain entire in a limb, when all voluntary power over the action of its muscles is lost; or why muscular power should remain, when feeling is gone?

"The attention of Galen was particularly directed to this question, in consequence of his having been called upon by some of his contemporaries to account for the manner in which he had cured a partial paralysis of the finger, by applications made to the spine. In answer, Galen told them, that two sets of nerves went to every part: one, to endow the skin with sensibility; the other, to give the muscles the power of voluntary action. This opinion was probably founded on a mere theory: but the facts lately discovered, and the observations which have been noted in attending to the phenomena of disease, though they do not afford absolute proofs of the correctness of Galen's supposition, still go far to establish the fact,—that every part of the body which is endowed with two or more powers, is provided with a distinct nerve for each function."—(pp. 12-13.)

The same theory was repeated by others, but still rested only on conjecture. Sauvages mentions the theory, but contradicts it; "in order to explain convulsions, they suppose, in the schools, that some nerves belong to feeling, while others belong to motion alone, and have no feeling: but this cannot be allowed, as it is disproved by a thou-

* The British and Foreign Med. Rev., Jan. 1840.

sand vivisections; for there is no nervous fibril in the body destitute of feeling *."

The theory, moreover, was barren, and had no influence on practice. Even Darwin, the subtle and the ingenious, overlooked the consequences that might have been deduced from it. An instance of this is cited from the Zoonomia by Sir Charles Bell in his work on the nervous system; and after him by our author.

"A gentleman, it is stated, labouring under *tic-douloureux*, was attended by the famous Cruickshanks, and also by Mr. Thomas, now the respected President of the Royal College of Surgeons of London. The patient had all the different nerves of his face cut across in succession, for the relief of his complaint. Dr. Darwin mentions, that no less than nine incisions, 'together with some smaller ones,' were made by these two surgeons! We cannot, therefore, doubt that all the branches, both of the portio dura and of the fifth pair, were fully divided. The necessary consequence of these operations, we also know, would be, distortion of the countenance, and inability to close the eyelids, so that the eyes would remain permanently open, awake or asleep, on the one hand; and perfect loss of sensibility of the skin, on the other. Now, although we are certain that such results would follow, and that the patient would suffer the greatest distress from these effects of the operations, it is a remarkable fact that not a single observation was hazarded by Mr. Cruickshanks, Mr. Thomas, or Dr. Darwin, as to the functions of either of the nerves. The case terminates with the remark, that 'the patient returned into Leicestershire perfectly restored.'" (pp.79 80.)

But the time had now nearly arrived when the veil was to be drawn up which had so long concealed a great secret of nature—the time when conjecture was at length to give way to proof. It was in 1811 that Sir C. Bell published the first rough sketch of those brilliant discoveries which have carried his name over the world, and made his reputation one of the most solid to be found in the annals of medicine. Some of Sir C. Bell's discoveries have been contested, and some errors have been pointed out in his opinions; but we think that our author shows a needless anxiety on the subject. Wherever civilization brings medicine in its train, Sir Charles Bell's name is mentioned with veneration; wherever the nervous system becomes the subject of discussion, the facts which he has adduced, and the opinions which he has founded upon them, are necessarily the leading topics. Can it be requisite to give quotations to prove Sir C. Bell's merits, as commentators bring forward their *testimonia* to show that Horace and Virgil wrote well? We will content ourselves with the evidence of one writer: "*Local affections of nerves.*—For the facts connected with this curious subject, I refer to the beautiful investigations of Mr. Charles Bell." (Abercrombie on the Brain, 2nd edit. 1829, p. 292.)

"Few opportunities have as yet occurred of ascertaining the condition of the nerve in those interesting cases of local paralysis, which have been so beautifully illustrated by Mr. Charles Bell, and his lamented friend the late Mr. Shaw. . . . The important practical application of the discoveries of Mr. Bell is, that there may be paralysis of the muscles of one side of the face, producing distortion of the mouth, with inability to shut the eyelids, without disease of the brain, and consequently without danger."—(Op. cit. p. 440-2.)

What more can be asked for by the ardent zeal of the most grateful pupil? Why, he wishes to prove, that his teacher discovered the whole of the theory now received, with some slight exceptions. We will, therefore, present one or two points of his case to our readers, confessing, at the same time, that to pronounce an accurate judgment upon them would previously require the most Herculean labour. It would require the task of reading through all the documents quoted by Mr. Shaw. But this would not be enough; for since, in a long dispute, the controversialists commonly shift their ground pretty often, it would be necessary to compare their several productions, and ascertain at what period a given opinion was adopted, and whether the theory of 1823 tallies exactly with that of 1822. But leaving this endless toil to the industry of some physiologist between the Baltic and the Rhine, let us inform our

* The original, quoted by our author, is as follows:—"Scholastici fingunt ad convulsiones explicandas, alios nervos esse sensorios, alios vero esse tantum motorios et sensûs expertes: *quod cùm millenis vivisectionibus falsum evincatur, admittendum non est:* nulla enim in corpore est fibra nervea quin sentiat."—*Nosol. Méthod.* tom. iij. p. 17. 1795.

readers of some of the most interesting points in Mr. Shaw's pleading.

In the first place, then, here is a list of the papers on the nervous system by Sir C. Bell, and his pupil, Mr. John Shaw, before Mr. Mayo, or M. Magendie, or any of the other commentators or controversialists, had entered the field:—

"The following is a list of the different publications, treating of the nervous system, that were given to the world by Sir Charles Bell and Mr. John Shaw before August, 1822:—

1. Idea of a New Anatomy of the Brain, submitted for the Observations of the Author's Friends; by Sir Charles Bell, 1811. 2. On the Arrangement of the Nerves; by the same. Phil. Trans. July, 1821. 3. Manual of Anatomy; by Mr. John Shaw. 1st edit. Sept. 1821; 2d and 3d edit. 1822. 4. On the Difference of the Functions of the Nerves of the Face; by the same. Quarterly Journal of Science, Dec. 1821. 5. On the Effects produced on the Human Countenance by Paralysis of the different Systems of Facial Nerves; by Mr. John Shaw, in the Quarterly Journal of Science, March, 1822. 6. On Partial Paralysis; by the same. Medico-Chirurgical Transactions, April, 1822. 7. On the Nerves which associate the Muscles of the Chest; by Sir Charles Bell. Phil. Trans. May 1822." (pp. 75-6.)

In the first of these works, from which our author gives numerous extracts, Sir C. Bell shows clearly that he knew that "nerves of different endowments were in the same cord, and held together by the same sheath. On laying bare the roots of the spinal nerves, I found I could cut across the posterior fasciculus of nerves, which took its origin from the posterior portion of the spinal marrow, without convulsing the muscles of the back; but that on touching the anterior fasciculus with the point of the knife, the muscles of the back were immediately convulsed."

Still, however, our author allows, that in this essay only one half of the true theory was positively laid down.

"But, notwithstanding these observations, it will be found, by attending to the description of the experiments on the roots of the spinal nerves, that the author has refrained from saying directly to which of the roots *sensation* belongs. That the anterior root was alone capable of exciting the muscles to contraction he has affirmed in sufficiently positive terms; his experiments made that clear and indisputable: but he has not attached, it would appear, that degree of confidence to his observations which would allow him to say distinctly, on their authority, on which of the roots sensation depended."

Mr. Mayo, on the other hand, asserts, that "Sir C. Bell was carried by these experiments very near to the truth, but he failed at that time to ascertain it: he inferred from his experiments, indeed, that the interior and posterior roots of the spinal nerves have different functions; but in the nature of these functions he was mistaken. *Upon the anterior root he supposed both motion and sensation to depend: the posterior root he considered an unconscious nerve, the office of which was to control the growth and sympathies of parts.* Before Sir C. Bell published any other account of the functions of these nerves, M. Magendie had given to the world the true theory of their uses."

It is quite clear, that to decide even this preliminary question, we ought to have the whole of the "Idea of a New Anatomy," &c. before us, and that extracts, however numerous, leave us something to wish for.

Again, supposing, for the sake of argument, that this point was decided against Sir C. Bell; it would remain to be seen whether, in any of his memoirs published between 1811 and August 1822, he revoked this theory, either in distinct terms or by implication; and to settle this question, it would be necessary to read through the remaining six papers in the list we quoted above. But it is, at any rate, perfectly clear, that long before his competitors came into the field, Sir Charles Bell had successfully applied his theories to the relief of disease. Our author gives examples from the Manual of Anatomy, by Mr. John Shaw, published in September 1821:—

"Since the use," Mr. Shaw observes, "of the portio dura has been illustrated by the facts of comparative anatomy, and by the various experiments instituted by Mr. Bell, we have been able to explain many symptoms of disease which have been hitherto misunderstood by surgeons. That I may direct the student's attention more particularly to this subject, I shall mention one or two cases which are illustrative of the consequence of an injury to this nerve. In a case of cynanche parotidea, when sup-

puration took place, every muscle to which the portio dura went was paralyzed in the act of respiration and expression, but the same muscles were still efficient in the act of mastication: thus when the patient attempted to whistle, or when he was made to sneeze, the muscles of only one side acted; but when he chewed his food, the muscles of both sides were in full action. This paralysis continued for a considerable time after the sinuses were healed. I then lost sight of the patient.

"I was lately consulted in a very interesting case, nearly of a similar nature. A young lady had, for several years, a distinct twist of one side of her mouth, particularly when she smiled; but of late years she had an affection of her eyelid. As she was under the care of a gentleman who was acquainted with the experiments which we had been making in Windmill-Street, the cause of the twist of the mouth was by him correctly referred to a severe attack of inflammation [in a gland below the ear], which the lady had had some years ago: but as he found it difficult to understand why the eye should be also now affected, he begged that I would see the patient with him.

"On noticing the action of the muscles, which I did when the lady was sitting at luncheon, I observed that no action was deficient while she was eating, but that there was a distinct paralysis when she smiled or laughed: however, I was a little puzzled to see the muscles of the mouth so distinctly affected and not those of the eye, because I had found in all the experiments in which the portio dura was cut, and in the cases where the paralysis had been produced by an inflamed gland under the ear, that both the muscles of the eye and of the mouth were affected at the same moment. But, on further inquiry, the cause of the difference in this case was explained; for I found that the inflammation, which had been the original source of the injury to the nerve, was confined to the space below the molar teeth, so that the branches of the nerve which go to the muscles round the eye were not included in the disease.

"There are certain tumors under the ear, which are of so dangerous a nature, that it is necessary to remove them without taking into account the paralysis consequent upon cutting the branches of the portio dura; still there may be cases where the patient will not thank the surgeon for ridding him of a trifling tumor at the expense of having ever after distortion of the face. Very lately, a gentleman wished me to cut out a small harmless tumor which was situated immediately upon the branch of the nerve which goes to the side of the mouth; but on putting the question to him, whether he would run the risk of having the side of the mouth paralysed, or retain the small tumor, which might almost be concealed by his whiskers, he chose to submit to the disfigurement produced by the tumor, as probably the lesser of the two.

"I think it hardly possible for surgeons now to propose to cut the branches of the fifth pair, or portio dura, indiscriminately, for the disease called the tic-douloureux. There is reason to believe that the disease is seldom or never in the portio dura; and the question of the propriety of cutting the fifth is very doubtful."—(P. 290.)

Into the question of the discovery of the entire functions of the fifth nerve, we will not enter: suffice it to say that he acknowledges the justice of the corrections made by Mr. Mayo and M. Magendie, concerning the office of the infraorbitary branch. Sir C. Bell supposed that it conferred motion, while his critics shewed that it ministered to sensation alone (pp. 64 and 97-8). Before we conclude this slight notice, we will give the list of papers published by Sir C. Bell and Mr. Shaw, between August 1822 and July 1823—that is to say, between the dates of Mr. Mayo's first and second memoirs. The tone of these two memoirs, according to our author, is perfectly different; if so, the reader, by studying the additional information which had been published in the interval, will ascertain what influence these five papers may have had upon the "anatomical and physiological commentaries."

"In addition to the seven papers published before Mr. Mayo composed his first memoir, and the titles of which have been given at p. 75, Sir Charles Bell and Mr. Shaw had presented, before July 1823, the following five:—

"1. Observations on M. Magendie's Experiments; by Mr. John Shaw. Medical and Physical Journal, October 1822.—2. On the Nervous System; by the same, in the same. December 1822.—3. On the Motions of the Eye; by Sir Charles Bell. Phil. Trans. March

1823.—4. On the Nerves of the Orbit; by the same, in the same. June 1823. —5. On the Nervous System. Second Part. By Mr. John Shaw. Medical and Physical Journal. June 1823."—(p. 90.)

On the whole, our author is not only a warm partisan but an acute controversialist, and makes out a strong case for Sir Charles Bell; though, perhaps, few physiologists will be inclined to go the whole length with him.

Mr. Alexander Shaw's narrative will be an indispensable book in every medical library of the higher order.

MEDICAL GAZETTE.

Friday, March 13, 1840.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

REPORT OF THE COMMISSIONERS OF CHARITIES.

THE thick volume of near 900 folio pages which has just been added to the already most voluminous records of the Charity Commissioners, includes their report concerning the three great hospitals of the metropolis—St. Bartholomew's, St. Thomas's, and Guy's. We propose to render our readers the service of reducing all that is generally interesting among the accumulated facts to the dimensions of a few pages in each of some succeeding numbers of our journal. We hope thus to be able to afford a succinct account of the history and present condition of each of these great and truly noble institutions—an object not less interesting to the profession than to the philanthropist, of whatever class he may be a member, who will find in these records the history of some of the most brilliant achievements that have ever blessed the labours of private benevolence in this or in any other country.

We feel bound to say that the reports before us are drawn up with the true spirit that should actuate commissioners; they are little more than collections of facts, to which the few remarks that are appended are always made with impartiality, and generally with judgment, and relate only to generalities respecting modes of government and election of officers, &c. There is displayed only the least possible degree of that itching for alteration, under the notion of amendment, which too much characterizes most of the inquiries made in the present day; and the result of all the investigations, strict and scrupulous as they evidently were, is on the whole highly creditable to the character of those who were thus, as it were, put upon their trial for their habitual conduct. There are none of those uprootings of abuses, or cleansings of corruption, or detections of jobberies, that have been so much talked of, and from the exposure of which a total *bouleversement* of the hospital systems has been so long and so loudly threatened. As far as we have yet examined the details of the reports, the management of each of these hospitals appears to have been conducted, notwithstanding their magnitude, with as much regularity, and with as scrupulous a regard to all the economy that is consistent with benevolence, as the affairs of any private and well-ordered household. They afford, indeed, an admirable example of the working of the system which we not long since pointed out as one of the chief sources of the superiority of hospital management in this country over that in France: we mean, the allowing those who contribute, to dispose of the funds; or, when there are large accumulations of funds, to leave their distribution to those who, by their willingness to add to them, prove themselves possessed of the spirit of those from whom they were originally derived; and who take such an interest in the

institution to which they attach themselves, as affords the best guarantee that they will manage its affairs with as much regard to its advantages as neglect of their own.

As in the abstracts which we propose to publish from these reports, we shall confine ourselves merely to the history, condition, and general plan of management of each hospital, and shall enter but little, if at all, into the details of the systems of elections, &c., we shall take this occasion of alluding to some of the results which may be drawn from them on these latter points. We would remark, in preface, that these results are *facts;* and that they are, therefore, of almost infinite value when weighed against suspicions, or opinions, or even what are called general principles; which afford, as every one knows, less solid foundations in the details of political economy than in any other science, except the medical, but which have long been almost the only grounds on which the question of hospital management has been discussed. And let it be also remembered, that these facts are collected, not by partisans, but by gentlemen who, if they have felt any prejudice at all, (which we do not believe they have,) have felt it against those whose proceedings were the objects of their inquiry.

Now if there be any thing against which one would be inclined to disclaim, and which it might, *from general principles*, be predicted could not but be productive of direct and continual injury to a public institution, it would surely be, that its affairs should fall into the hands of a single individual, who, in every thing connected with it, should be able to exercise supreme and autocratic authority. In *theory*, we say, the only result to which such a plan could lead would be the personal aggrandizement and advantage of the one individual, and the deep injury of all who are placed beneath him. But in *practice*, how stands the example which will have already suggested itself to the mind of each reader? In speaking of "the absolute and uncontrolled authority which is practically enjoyed by the present treasurer (of Guy's Hospital,) in every department of the charity," the Commissioners state that "not only are the administration of the hospital and the management of the funds entirely in his hands, but the nomination of governors seems mainly to rest with him;" and again, "the entire control of the medical school has been formally delegated by the other governors to Mr. Harrison in his private and individual capacity. He names the lecturers; and exercises a sovereign and irresponsible authority in the distribution of the funds arising from the pupils' fees. So large a concession appears to us unjustifiable. Not only is this great school of medicine thus wholly delivered up to Mr. H.'s discretion, but the physicians and surgeons of the hospital being practically selected from the lecturers in the school, their nomination is virtually surrendered to him."

The tone of these remarks is a sufficient proof that there is no prejudice in the minds of the writers in favour of the gentleman who is their object—yet what follows? "In submitting these remarks, it is but justice to Mr. Harrison to state that his whole time, talent, and energies, have, for above forty years, been devoted to the service of the hospital; and that the entire course of his administration has been marked by zeal the most active and efficient, as well as by the most scrupulous and disinterested integrity. * * * * Not only have his services been gratuitous, but his connection with the hospital (in the absence of a fund for the assistance of distressed patients on their discharge) has proved to him a constant source of expense, numberless destitute persons

having been relieved by his private benevolence. We are far from being prepared to show or even to suggest that the interests of the charity have as yet suffered under the above extraordinary delegation of authority to this gentleman; but a successor equally qualified, and willing to make similar sacrifices with him, is not likely to be found when it may become necessary, &c."

Those who best know Mr. Harrison will also best know how much more highly his praises might fairly be coloured; it is not our place or purpose to add more than that by the exercise of his rare "talent and energies" gratuitously, and more than gratuitously given, the hospital and school to which he has attached himself have been raised to an eminence which they could, under no other circumstances, have attained. We entirely agree with the commissioners in their opinion of the danger which would result from the same power being delegated to any person possessed either of less talent or of less integrity; but such a danger is never likely to occur; it was the possession of those qualities, in the highest degree, that obtained the power; and where they do not exist, the power will never be yielded. Still, no more striking example could be afforded than is here offered, of the advantage arising from the government, by private individuals, of all establishments which have benevolence for their object. Here, under circumstances of the greatest danger, and in which speculators would tell us that the absence of abuse is impossible, the results both to the funds and the objects of the charity are most beneficial.

We observe, that a somewhat similar fault, presumed to exist in the mode of election of the medical and surgical officers of the several establtshments, is stated not to have led to any practical harm. It is and must be confessed, that although on some occasions the results of the power of election being placed in the hands of non-professional judges, who are totally incapable of estimating the true merits of the candidates, may have seemed to be faulty, yet that no other plan presents itself which would correct this evil, without risking that much greater one of alienating the attachment of many of the warmest supporters of the charities, who, though guided in the main by benevolence, are yet not uninfluenced by the desire of possessing patronage and power. The substitution of the "chances of the concours," as M. Magendie calls them, for the present system, would be dearly bought at the expense of such an alienation, or of any plan which would tend to withdraw the hospitals from the management of private individuals. It would be dearly bought, even if the governors of hospitals were, in practice, such arbitrary and misguided judges as they are presumed, by the nature of their office, to be. But, in fact, they are not so. The medical officers are almost always selected from the medical school; and the teachers in the latter are recommended by those who already hold lectureships or other offices, and who, as the report says, "have the greatest pecuniary interest in the reputation of the school, and the consequent influx of pupils to the hospital practice." The most that the *concours* can fairly pretend to, and all that those who know any thing of its actual working can claim for its achievement, is, that it secures one out of the four or five best candidates for the office. In many cases, as the history of the French school of medicine, even within the last few years, amply testifies, it has failed of obtaining the election for him whose works and the expressed opinion of all the profession, except his professional judges, have declared to be the best. And this

is about the degree of success which the system of English elections attains; in general the best candidate is selected, due regard being had to standing in the profession or in the institution to which he has been already in some way attached; but if not the best, at least one of the best who could be selected is taken. By the conjunction of medical schools with all our hospitals, the candidates for places in the latter are, as it were, sifted before they can come into the field; if they are not possessed of reputation or talent sufficient for a place in the school, they labour under a disadvantage, though not an insuperable one, in the election of the hospital; and thus nearly all hospital officers are, at least once, subjected to the scrutiny of a competent tribunal, for the lecturers are always virtually self-elected. We can here, again, fully agree with the opinion of the Commissioners, that the best guarantee for the interests of the patients of the hospital, by insuring the selection of competent medical officers, is an extensive medical school attached to the hospital, into which those already holding office in it, or having any share in its success, would, for their own interests' sake, elect only competent persons, and from which, as a general rule, the medical officers should be selected. But here we must, for the present, leave this part of the subject, which is far more extensive than the space which we can at present afford would allow us fairly to discuss.

SALT AND BRANDY.

Some good objection may be made to every possible tax. One excludes the light of day, another the light of knowledge; a third deprives the poor of the means of cleanliness, and a fourth curtails their scanty enjoyments. It is rumoured that a duty is to be imposed on salt; and to this there is the glaring objection that a duty on salt is a kind of poll-tax levied to an equal amount on the peer and the peasant, and therefore pressing most unequally upon them. A writer whose letter was published in the *Times*, a week ago, under the signature of "Medicus," does not, however, urge this objection; but he imagines that the health of the poor will suffer from the want of salt, which he supposes (in consequence, probably, of Dr. Stevens's experiments) to be necessary for the colouring of the blood. That an entire want of salt is injurious to health, is admitted on all hands. It is said that criminals, in Holland, were formerly condemned to live without salt, and were dreadfully infested with worms in consequence. Dr. Dyer stated, some years since, from his own experience, that the planters' slaves in the Mauritius rarely got salt, and were much troubled with worms; while the government slaves and the convicts had salt, and seldom suffered from the disease. We do not recollect, however, to have seen it stated, that when the tax was at the highest, the poor of this country suffered from the want of salt; the quantity required for health being but small.

Nevertheless, besides the objection to the proposed tax from its unfairness, there is another, from the blow it would give to the fisheries, which are much encouraged by the cheapness of salt, and add considerably to the national stock of food. The use of salt as manure tends to the same great end, is, of course, grievously checked by almost any duty.

Instead of the proposed impost, Medicus suggests an additional duty upon brandy, which, heerroneously says, is consumed, not by the lower and middle classes, but by the upper ones alone. In our article entitled *Effects of the Tax on Wine* *, we mentioned the enormous duty of 22s. 6d. per imperial gallon levied on brandy, and anticipated a time when it might be reduced. The fact is, that this portentous impost is levied merely for the benefit of British and Colonial distillers, and the minister who should increase it with the hope of increasing the revenue, would be guilty of a very green trick indeed. He would experimentally learn the truth of Swift's maxim, that, in the Customs, two and two do not always make four.

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* Medical Gazette, March 2, 1839.

According to the *Journal des Débats*, the duty levied in England on French wine and brandy is from four to seven hundred per cent. on the cost price. If the political economists are right when they assert that smuggling is inevitable when the duty on any article amounts to thirty per cent. *ad valorem*, what must it be when the duty is seven times the price? One might almost imagine that smuggling would become the rule, and payment of customs the exception. The immense duty on brandy was undoubtedly intended as a prohibitory one, in order to encourage the trashy produce of our English distilleries; but the impost of 5s. 6d. on each imperial gallon of French wine seems to have been enacted in pure innocence, the legislature being unconscious of the enormity of the tax: and thus, while the wholesome and delicious wines of France are freely quaffed in every other civilized country, in England alone they are considered as the privileged draught of a happy few!

VACCINATION.

On the presentation of a petition, signed by 1,200 medical practitioners, to the House of Lords, on Tuesday evening, the Marquis of Lansdowne, after repeating the oft-repeated arguments against the pernicious practice of inoculation, and the comparative neglect of vaccination, said, "He was the last person to propose orders or restrictions with reference to a subject of this kind; but the petitioners, whose opinion he was speaking, proposed that penalties should be inflicted on persons inoculating for the small-pock, and that measures should be taken for extending more effectually the practice of vaccination. These were points which he conceived were well worthy the attention of their Lordships," &c.

Lord Ellenborough agreed entirely in the observations of Lord Lansdowne, and suggested that the object of the petitioners might be effected by adding a clause to the Poor Law, to enable the guardians of the poor to enter into a contract with the medical men of the respective unions, to vaccinate the children of the poor. Lord Lansdowne said he had no doubt the Poor Law Commissioners would attend to these suggestions, and Lord Normanby promised that he would give his early attention to the subject.

We do hope the subject will not now be allowed to rest. The great prevalence of small-pox of late ought to open the eyes of every one to the dangers of allowing the practice of vaccination to fall into comparative disuse in the very country in which it originated, and from which its advantages have been gladly borrowed, and more highly appreciated in every other nation. This is peculiarly one of the cases to which we have so often alluded, in which a Government is bound even to compel protection upon those who cannot, or will not, protect themselves.

NOTICE OF A NEW MONSTROSITY;

A Portion of a Fœtus living upon the Testicle.

By M. Velpeau.

The case on which I propose to engage the Academy to-day, is one of the most strange that the sciences of observation have yet had to consider; interesting at once to surgery, pathology, anatomy, generation, and physiology in general, it appears to be without parallel among known facts. It relates to a living portion of a fœtus fixed in the testicle of an adult, where it seems to have been developed and to have lived since his birth. This is a peculiarity so contrary to what we know, and is at first glance so incomprehensible, that one might be justified in doubting its existence if I did not possess the substantial proof of it in the preparations here presented, and if the patient and the tumor had not been observed by several hundreds of practitioners and students, and if the operation had not been performed in the presence of 500 persons. The case is, in a few words, as follows:—

A young man, named Gallochat, of Esternay, aged 27, of a good constitution, and who had never suffered from any severe disease, was sent, in the middle of January, to M. Andral, who at once passed him over to my division in the Hôpital de la Charité.

On examination, I found that the patient had a tumor, nearly as large as a fist, on the right side of the scrotum. It appeared unconnected with the substance of the testicle; the skin over it presented no analogy to that of the scrotum, and it did not appear to me to belong to any known class of tumors. Although several surgeons thought it might be referred, some to the cancerous tumors, some to the

fibrous, and some to the tubereulous class, I did not think it possible to adopt their opinion. Observing, moreover, that its origin dated back to the patient's birth, that it was not perceived at its commencement, that it had never produced any pain, that no pathological process had been set up in it, and that it could be cut, or pricked, or pierced through and through, without causing the least suffering; taking notice also of the aspect of the skin which covered its external surface, of its elasticity, of the indurations which it presented internally, of a tuft of hair which came from a kind of ulcer at its posterior part, of a reddish tubercle at the bottom of another opening anteriorly, and of a glairy or grumous matter which the patient had sometimes discharged; I came to the idea that it was a *fœtal tumor, a product of conception.*

Wishing to obtain exact information on the earliest history of so singular a production, I wrote to M. Senoble, physician at Esternay, who answered me thus:—" At the age of about four months, the mother of Galloehat came to shew me her ehild; he then had a tumor, or merely a swelling of the scrotum, which I found to be only a pneumatocele. Some months afterwards, I found, on examining him again, a small inflamed tumor, which appeared to me to be a slight phlegmon, and which yielded to simple emollient local applications. I heard no more of him till at the end of three or four years, when I learned that the child's tumor still continued enlarging." Now although these details were very incomplete, they yet strengthened me in my first opinion; which seemed so singular to those to whom I mentioned it, that I alone held it. I therefore planned the removal of the tumor without taking away the testicle, intending to perform a kind of *Cæsarean operation on the man.* The details of the proceeding belong entirely to surgery, and need not now occupy me; it may be sufficient to state that its results were satisfactory.

The examination of the tumor has enabled me to detect nearly all the anatomical elements of the body of a mammal. Thus, its external layer is evidently cutaneous; the greater part of its substance is a mixture of lamellæ and fibres which give the idea of the cellular, adipose, muscular, and fibrous tissues. In its interior, we found two small cysts filled with matter like albumen or the vitreous humour of the eye; another cyst, as large as a partridge's egg, contained a greenish-yellow and semiliquid matter like meconium; in a fourth sac there was a grumous substanee, of a dirty-yellow colour, concrete, and surrounded with hair. The substance from this last sae, when analyzed and examined with the microscope, presented all the characters of sebaceous matter and scales of epidermis. The hairs did not appear to have any bulbs at their bases. The tuft of hair which was seen externally, protruded from one of these cysts—from that which was filled with greenish matter; and the opening in it had some analogy with an anus.

Lastly, in the midst of all these elements, we found numerous portions of the skeleton perfectly organized, evidently belonging (as any one may convince himself by examining the preparation) to true bones, and not to accidental productions. These bones, which were every where enveloped by a sort of periosteum, and of which the several pieees were moveable upon each other, and had distinct artieulations, may be divided into three sets. The first group is essentially composed of three pieees, in which I thought I could recognize the clavicle, the scapula, and a part of the humerus. The second group, much larger than the preceding, appears to belong to the pelvis, or perhaps to the base of the skull; the body of the sphenoid, or else the sacrum, forms the central portion. Lastly, the third series seems to comprehend portions of vertebræ and fragments of undetermined bones.

Whatever be the name that the different portions I have pointed out may deserve, certain it is that they belong to a product of eonception, and to a fœtus already far advanced in its development. They are before the Academy, and the correctness of the fact is absolutely incontrovertible. In the monstrosity by inclusion, as it is called, which has been described by Dupuytren, Geoffroy, and Ollivier, one of the fœtuses absorbed by the other has always appeared surrounded by a cyst, and in the condition of a foreign body in the tissues of the fœtus which has continued alive. In the cases related by Saint-Donat, Prochaska, and others, of the debris of fœtus contained in the scrotum, there have always been encysted tumors, necrosed bones, and organized parts destroyed by suppuration and in a state of decomposition. In this subjeet, on the contrary, every thing has continued to live. The anormal tumor had its own proper colour, consistence, and sensibility, entirely independent of the individual who supported it; a clear well-defined line separated the integuments of its skin from the serotum. I pinched it with all possible force; I pricked it with various instruments: the young man himself several times ran a knife into it, without feeling the least painful sensation; and yet all the wounds that were made in it bled abun-

dantly, inflamed, and cicatrized, like those of any other part of the body, and nothing indicated in it the least diseased condition. The substances, and all the elements that were found in it, gave the idea of normal tissues or products, and we were quite unable to discover the existence of the least drop of pus, or of any carious or necrosed bone, any altered cartilage, or the least fungous production.

When, on the other hand, one observes that the tumor was as large as a fist—that the surgeon who saw the child when four months old scarcely took notice of it, and that he took it at first for a pneumatocele, and then for a little phlegmon, which terminated by resolution—it is difficult to believe that its volume was as considerable at the birth of the patient as it was at the time when I first saw it. Such a mass in an infant would certainly have attracted great attention both from the physician and the family. We must remember, moreover, that, according to M. Senoble's statement, the tumor continued to grow at least up to the age of six or seven years, and that the young man, who says that it has always had the same appearance, can scarcely charge his memory so far back as that time of his life: we must therefore conclude that the portions of the fœtus which I have described have lived and been developed simultaneously with the individual who bore them, and that there were thus two beings united to one another.

Now how could this take place? Did a part of the fœtus, the remainder of which has disappeared, become attached, during intra-uterine life, to the scrotum, in such a manner as to remain there in the form of a graft?—or can this be the remains of a fœtus which at first passed into the abdomen of another, and then descended by the tunica vaginalis, and has at last worn away from within outwards the envelopes of the scrotum?—or, lastly, have we here a creation, the unaided product, of the testicle? But I desist; these are delicate questions in high physiology and in transcendental anatomy, which I am neither able nor willing to broach till the preparations which suggest them have been submitted to the judgment of the Academy.—*Gazette Médicale*, Feb. 15, 1840.

HISTORY OF A CÆSAREAN OPERATION IN A TWIN PREGNANCY.

By Dr. Scholler, of Berlin.

The subject of this operation was a poor woman of the middle stature, 40 years old, and affected with lateral curvature of the lumbar portion of the vertebral column. She had suffered severely in early childhood, from rickets, and had not been able to go alone till after her fifth year. Afterwards she had had constant good health; she menstruated first after her twentieth year, and had continued since to do so regularly. In 1836, while unmarried, she became pregnant, and was received into the obstetric department of the hospital, where, in 1837, after a labour of two days and a half, with a presentation of the right shoulder and arm, she was delivered by turning and extraction of a dead and putrid child, the bones of whose skull, separated from their mutual connections, lay loose within the integuments of the head, as in a sac, containing a thickish pulpy substance that presented no trace of brain. In three weeks after her delivery she left the hospital perfectly well.

A year after this time she married, and soon became pregnant again, but again escaped the danger that she must have encountered from the delivery of a full-grown and living child, by an accidental abortion in the fourth month. In the middle of February 1837, she again conceived, and this time her gestation was carried to the full period. She first had labour-pains on the 17th of November, in the evening, and they continued through the night, though they were neither severe nor frequent. During the 18th, two midwives and a surgeon made ineffectual attempts to deliver her, and at five in the evening she was brought to the hospital.

Examination detected a very narrow conjugate diameter of the aperture of the pelvis, which amounted at most to two inches and a quarter. Near the umbilical cord, which had protruded for some time from the os uteri, and was now pulseless, the head was felt lying quite above the brim of the pelvis; of which the external measure, by Baudeloeque's compasses, was six inches. The furrow between two unequal bulgings of the distended abdominal walls gave the idea that she was pregnant with twins, and auscultation proved, in the most striking manner, the existence of a child still living, together with the child which, as its umbilical cord had been protruded beyond the vagina and pulseless for five hours, was certainly dead. The Cæsarean operation, therefore, was now deemed absolutely necessary, and it was commenced at ten o'clock at night, and performed by Dr. Busch, in three minutes and a half. An incision, about six inches long, was made in the linea alba, beginning just below the umbilicus, and extending to within an inch and a half of the symphysis pubes. On opening the abdominal walls, which were

about two lines thick, some spoonsful of yellowish serous fluid flowed out. On cutting through the walls of the uterus, which were about five lines in thickness, and in which the incision was five inches long, a considerable hæmorrhage took place, and the knife came, as was expected, directly upon the placenta: the operator turned the latter off to the right side, and the arm of the dead child presented. It was seized by the feet (as they should always be) and drawn out, and its umbilical cord was divided.

The membranes of the second child were now seen to the upper and left side of the wound, with a dark, bluish, glistening aspect. They were broken, and the child, in the same way as the first, was drawn out by its feet. It soon cried out, and was given to the care of the attendant midwife. The separated placentæ were then taken away and removed with the membranes. The protrusion of the intestines, which would now so easily have taken place in the rapid contraction of the uterus, was entirely prevented by pressing on the abdomen. The wound was united by sutures, and lightly dressed with plasters and oiled compresses, and the patient was carefully put to bed.

For the first two days after the operation the patient went on satisfactorily, though with many signs of acute peritonitis; after that time, however, she began to sink, and, notwithstanding the judicious treatment which is detailed at some length, she died on the morning of the 23d, four days and a half from the performance of the operation.

On opening the body, twenty-four hours after, the large intestines were found adherent by lymph to the omentum, whose lower edge was similarly connected to the abdominal walls, and to the uterus at its upper part, by a broad thick band of lympth. Some adhesions of the intestines to each other were also observed, but nothing like a generally diffused intestinal inflammation. On the left side, near the descending colon, there was a serous exudation, and on the right, just below the cæcum, a dark coagulum of blood adhering to the abdominal wall. The abdominal organs generally were healthy. The uterus was as large as the head of a newborn child. Its peritoneal covering in the neighbourhood of the wound, which passed through only the body of the organ, and did not extend nearly to the fundus, was thickened; the wound itself was open, and its everted edges were discoloured; the apertures in the large blood-vessels were filled by bright red coagula, which passed far into their canals. The situation where the placenta had been attached was rough and shaggy; there was a coagulum at the base of the uterus, and some distinct remains of decidua still adhering. The wound in the abdominal walls was found completely united on its under surface, by a layer of plastic lymph effused over it; on its external surface it was united only at one point.—*Medicinische Zeitung*, Jan. 1840.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Feb. 27, 1840.

W. Hemsley, Kegworth, Leicestershire.—H. G. Foy, Taunton, Somersetshire.—James Gleadall, South Kirkley, Yorkshire.—John Mayer, Newcastle.—S. B. Bucknell, Rugby, Warwickshire.—John Kenyon, Hooton Pagnell, Yorkshire.—Thos. Hunt, Bristol.

WEEKLY ACCOUNT OF BURIALS.

From BILLS of MORTALITY, *March* 3, 1840.

Abscess	1	Heart, diseased	4
Age and Debility	34	Hooping Cough	4
Apoplexy	2	Inflammation	6
Asthma	14	Bowels & Stomach	3
Childbirth	2	Brain	1
Consumption	34	Lungs and Pleura	4
Convulsions	15	Insanity	1
Croup	5	Paralysis	1
Dentition	5	Rheumatism	1
Dropsy	11	Small-pox	1
Dropsy in the Brain	10	Sore Throat & Quinsey	1
Erysipelas	2	Unknown Causes	95
Fever	2		
Fever, Scarlet	11	Casualties	10

Increase of Burials, as compared with the preceding week . . . 59

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

		Thermometer		Barometer	
Feb.					
Thursday	27	from 30	to 38	30·36	to 30 30
Friday	28	30	43	30 24	30·17
Saturday	29	29 5	42	30·21	30 28
March.					
Sunday	1	23	37	30·26	30·25
Monday	2	24	43	30·31	30·34
Tuesday	3	29	45	30·34	30·32
Wednesday	4	27	39	30·29	Stat.

Wind N.E. on the 27th ult. and two following days; on the 1st and 2d East, since N.E.

The evening of the 27th and mo ning of the 28th overcast. A few small flakes of snow fell about 8 A.M. on the 28th; since generally clear, except the morning of the 3d, when again a little snow fell.

CHARLES HENRY ADAMS.

NOTICE.

We shall be happy to receive the Reports alluded to by Mr. B., of Dublin.

ERRATA.—In our last number, p. 888, col. 1, line 35, for "Votivä," read "Votivâ;" same line, for "tabell," read "tabellâ."

WILSON & OGILVY, 57, Skinner Street, London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, MARCH 20, 1840.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF SURGERY.

Delivered at the Westminster Hospital School,

By Benjamin Phillips, F.R.S.

Surgeon to the St. Marylebone Infirmary.

TUBERCULÆ.

Papulæ.—Prurigo.—Lupus.—Nævus Maternus.—Erectile Tumors.—Onychia—*Their Nature and Treatment.*

PAPULÆ.

Of papular diseases, I have only a few cases of prurigo to shew you. This order of cutaneous affections is characterised by small, solid, resistant elevations: sometimes these are constituted by a morbid enlargement of the papillæ, sometimes by true elevations unconnected with the papillæ. They never contain serosity or pus; they are always accompanied by a more or less intense itching. They are usually chronic, very rarely acute, affections. They may last for a week, a fortnight, or for months, or years. They may be developed at any part of the cutaneous integument—may affect one region—may be general; most frequently they affect several distinct and distant points. When on the limbs, we usually find them affect the external surface; when they affect the trunk, the back is the most frequent seat of the disease: in all cases they are commonly seen in the sense of extension.

Slowly developed, these affections are preceded by more or less acute pruritus. Most frequently, at first, the papulæ are in colour like that of the surrounding integuments: in some cases they are redder; in others, paler. They are rarely accompanied by constitutional symptoms: they terminate by resolution, by a slight desquamation; sometimes by small ulcerations at the point of each papulæ (*lichen agrius*). None of these diseases are contagious.

It is not easy to fail in the diagnosis of papular diseases, even when small ulcerations have likened them to scabies, or eczema; some papulæ may always be found to indicate the affection. These diseases are often very obstinate; especially so is the *prurigo senilis*, and the itching is often very distressing.

PRURIGO.

This term was used by Willan to describe the disease now before you: at first, as you see, there is no change of colour; but the papulæ are larger than those of *lichen*. The itching is often very intense; the disease is always chronic, often very difficult to cure, and, when occurring in old people, is in many cases altogether incurable. In the case before you, as in most others, many portions of the cutaneous surface are affected; but the shoulders and back are the regions for which it manifests the greatest predilection.

The two varieties I show you are the *P. formicans* and *P. senilis*. The papulæ are not usually very prominent, nor very large; but the itching, towards evening, and when the patient is warm in bed, is intolerable; compared by some to insects or ants devouring the part; by others, to hot needles piercing the skin. The itching obliges the patient to rub or scratch the part, the summits of the papulæ are destroyed, a little blood escapes and coagulates upon these summits, forming small blackish points, which are very characteristic of the disease. In old people, as in the case before you, often the disease becomes almost universal; the papulæ are hard, large, and projecting; the skin becomes thickened at the part, and the disease

almost confluent. In many cases of this kind, the pruritus is almost insupportable; no sooner is the patient comfortable in his bed than the torture is intense; and was compared, by a patient I once knew, to the torment of "the damned."

Children and old people suffer more frequently than adults; and we see the disease most frequently in spring and summer: poverty and privation seem to exercise much influence in its development. You can scarcely confound this disease with lichen: the papulæ here are larger; and those of lichen are not covered with the blackish crust, and do not itch so much. You should not confound it with vesicular diseases, the elementary condition is so different; but occasionally it is not easy to distinguish it from scabies; but the papulæ, in the affection before us, in which they are almost always numerous, and covered with the blood-crust, are conclusive, whilst the small squamæ, which sometimes cover the destroyed vesicles of scabies, are thin and yellow. Prurigo appears upon the back and shoulders, and in the limbs in the sense of extension. Scabies occupies the opposite regions—the surface of the abdomen, the inner side of the arms and thighs, and in the seat of flexion. Scabies is contagious, prurigo is not.

This affection in the present case will probably never be cured; and if it be, it will most likely soon re-appear: in old people it is always extremely troublesome and obstinate. In this case, I will give you an opportunity of watching the effects of alkalies, two drachms of subcarbonate of potash, or the liquor potassæ, to a pint of barley-water daily: this plan we will try for a month, with tepid baths on alternate nights. If it do not succeed, we will try it associated with sulphur—two drachms of sulphur to one of carbonate daily: and if those means fail, we will try mineral acid drinks. It is always necessary to regulate the diet: in this case the digestive organs may be brought into a better condition by giving a little meat daily; but in those cases where the pleasures of the table have had to do with the production of the disease, milk diet will answer well, and very much lessen the pruritus. If the skin be very hard—and, in old cases, it is often so—vapour baths daily will be of essential service. It is said that alkaline sulphuretted water is a good application when the disease is declining, and the pruritus nearly dissipated; but I have never experienced great good from the use of it. If the pruritus be very intense, and if it prevent the patient from resting, an alkaline or gelatinous bath, daily, will often prove a powerful sedative. I have, however, known all these means, as well as hydrocyanic acid and other substances, to fail; and I have found small general bleedings—say three or four ounces at a time—to lessen irritation, in such cases, more completely than any other remedy with which I am acquainted. At the same time, great care should be taken to regulate the functions of the digestive and urinary organs.

LUPUS.

I have three cases of lupus to bring under your notice, in which a vast variety of means of treatment have been employed. Lupus is a disease which commences, generally, with a livid, indolent tubercle, and is characterised by a tendency to destroy surrounding parts, and subjacent tissues. It presents several different forms, which are exemplified by the cases before you. The differences relate to the seat, the progress, and extent of destruction. One extends along the surface more particularly; another extends quickly to subjacent parts; and the other, as you see in the boy Armstrong, presents a remarkable hypertrophy of the skin. In the great majority of cases, lupus affects the face, and the nose is the part ordinarily affected; next to the nose, comes the cheek, the lips, the chin. In the greatest number of cases the disease is limited to one part; in a few, it affects several regions at the same time.

The small red hard tubercle is slowly developed, and seems to affect only the superficial layers of the cutis; it is often covered with white dry scales: sometimes several of these tubercles are near each other, coalesce, and ultimately ulcerate. In one of the cases before you, the course of the disease was different — tubercles were not the elementary lesions. It began with an inflammation of the mucous membrane of the nasal fossa; the nose was as it is now, red and tumid; a thin scab was formed on it; it was puffed up; it was replaced by a thicker one: the work of destruction thus began. In some cases, a violet spot will be seen at the end of the nose, or at any other point; it is accompanied with slight tumefaction: for months the only change apparent may be a slight increase of colour; a superficial ulceration follows, which tends to acquire more depth; it is covered by a scab, which gradually increases in thickness: at last the skin is so thinned as to offer the appearance of a cicatrix, although there has been neither tubercle nor ulceration. Where lupus destroys a considerable extent of surface, there are no tubercles—no scabs; but the skin is red, and the cuticle exfoliates, so as to make the integument thin; it becomes smooth, shining, red, and not unlike the cicatrix succeeding to a

superficial burn: the second lad well illustrates this variety. Where tubercles exist and ulcerate, it is by the development of new ones that the disease extends. The variety of lupus which destroys deeply, commonly affects the nose; and you have before you a sad example of it. It commences with redness and tumefaction of the part and coryza, the tumefied part becomes painful and of a violet red colour, ulcerates, and a scab forms; the disease extends, the scab thickens and covers it, the skin and the cartilages are destroyed under the crust, and, when that falls off, an ill-conditioned ulcer is unmasked. The destruction may implicate a part, or, as in this case, the whole nose and oro-nasal septum. The quantity of destruction is not proportioned to the duration of the disease. It may be that, after several years, the destruction is of very trifling extent; on the contrary, the whole nose may be destroyed in a month. It almost always happens that, when lupus is limited to the nose, the nasal mucous membrane suffers, and the septum may be destroyed before the integument is quite broken down.

The boy Armstrong presents that form of the disease in which there is much hypertrophy; it began by the side of the nose by means of tubercles: they did not ulcerate at their summits; but their base enlarged, and the surrounding tissue became indurated: these tubercles extended to the side of the nose, stretched across it, and affected the other side of the face; the features were much changed by tumefaction, especially the mouth and nose.

The disease may last long; but when the parts resume their natural condition, which probably they never do spontaneously, their vitality increases, the swelling diminishes, and the tubercles are gradually resolved. All these varieties may exist in the same person at the same time; and the trifling modifications are very numerous. The disease may extend over a very considerable part of the face, destroying, in succession, the several organs: in these cases ultimately gastro-enteric symptoms may arise, with low fever, and colliquative diarrhœa, ending in death.

Lupus is more a disease of youth than adult life; and, in my experience, it has appeared to manifest a predilection for scrofulous children. It may be confounded with acné rosacea; but then the erythematous areola and the pustules are a sufficient distinction. It has been mistaken for elephantiasis; but the colour of the skin, and the size of the tubercular-like masses, in elephantiasis, should prevent this. It has been mistaken for tubercular lepra; but the ulcerations, when they occur, are more superficial than those of lupus. In all cases a little attention should prevent such mistakes.

Lupus is a very serious disease, not because it has any decided tendency to destroy life, but because it rarely yields before there has been considerable destruction of parts, followed by cicatrices and deformity.

Treatment.—In the treatment of lupus, I have ransacked the materia medica to discover some internal means for arresting the progress of the disease, but without the slightest success. If a patient be manifestly scrofulous, I exhibit the iodide of iron; I have used the sol. calcis muriat., the chloride of baryta, mercury in various forms, arsenic in various forms, but without any obvious influence upon the disease. I have satisfied myself that internal means are rarely of use, as applied to the local disease; but if there be any disorder of the system, the cure of that may facilitate the action of local remedies. When the tubercles are not ulcerated, I have applied black wash, various preparations of iodine, combinations of iodine with mercury, and sulphur, but without decided benefit. I have applied nitrate of silver, different forms of arsenic, as causties, with some benefit; but I have had complete success with the chloride of antimony, the farriers' caustic, and the proto-nitrate of mercury. In Armstrong's, you will see the effect of the antimony. With a camel-hair pencil a part of the surface shall be brushed over every third day with this preparation; and if we find the inflammation is not great, we may extend it to the whole surface; but, before we begin, we will apply a poultice for two or three days to get away as many of the scales as possible, that the caustic may be applied upon the surface itself. Biett prefers an arsenical preparation—one or two parts of arsenic to a hundred of calomel; the surface is powdered with this mixture; a greyish adherent crust is soon formed. Usually it is wise to apply it over a surface not exceeding a square inch at a time. The proto-nitrate of mercury, as well as the arsenical causties, will sometimes produce an erysipelatous redness, which usually soon subsides. The application is at the moment often very painful; but this soon lessens. Whatever caustic is employed, when the eschar is thrown off, a healthy cicatrising surface may be seen; but this rarely happens after a single application. Indeed the amendment is generally very slow; and many months may be required for the complete destruction of the morbid condition, and the production of a good cicatrix. When this disorganising action goes on, it is very necessary to watch the formation of cicatrices, for the purpose of endeavouring to prevent deformity—the

occlusion of natural openings. It is sometimes necessary to introduce into the nares, for this purpose, small plugs of prepared sponge. This must be continued for some time, because this tendency is not dissipated with the cicatrisation of an ulcer. So long as the cicatrices are bluish and soft, it is necessary to continue these applications. During the treatment, patients should avoid exposure to excessive heat or cold. By want of attention to this precaution, cicatrices which appeared sound have frequently been seen to open afresh.

NÆVUS MATERNUS.

Under the denomination Nævus maternus are included all those congenital marks on the skin which are vulgarly attributed to impressions experienced by the mother during pregnancy, and transmitted to the fœtus. Some of these marks are simply pigmentary; others are composed of erectile tissue. In the former, the spot, though well circumscribed, is not sensibly raised above the level of the skin; its colour varies but little, whatever be the state of the mind, the respiration, or the circulation. In the latter, there is elevation of the skin, frequently in a granular form, like a raspberry or mulberry. The one is an abnormal condition of the cutaneous pigment; the other, of the vascular cutaneous system. These pigmentary disorders may be extensive, or very limited; their colour ranges through all the shades of brown; their surface is sometimes covered with a kind of down, sometimes with strong hair. The causes of these spots are not well known; they are unquestionably owing to a diseased condition of the cutaneous system, particularly of the fluid of Malpighi. Older authors were accustomed to attribute them to the influence of the imagination of the mother upon the child contained in the uterus; but, in the present day, that opinion is much exploded; and we are more inclined to refer them to a defect in the primitive organisation—to a morbid alteration in the skin of the fœtus. Usually these spots are stationary; if any change occur, it is rather in colour than in extent. Being unsusceptible of degeneration, and causing no pain, unless irritated, they should be left alone, because the deformity they cause is generally much less than would be a cicatrix consequent on their excision. In certain situations they are unsightly. Cicero had one on his nose of the size of a grey pea, which gave him the particular name he bore, (Cicer arietinum); and we may then be called on to remove them. In persons with light or reddish hair and fine skin, red vascular spots are sometimes seen, which, from the vessels taking an arrangement not very unlike that of a spider's web, have been termed *nævus araneus*. Seated on the face, they sometimes constitute a deformity which young ladies are glad to be rid of. Sir B. Brodie recommends that a stick of potassa fusa be well pointed, that the largest vessel passing to the part be punctured with the point of a lancet, and that the point of caustic be inserted into the wound; the supply of blood to the point is thus cut off, and the spot is gradually dissipated. A little vinegar should be directly applied to the surface, so as to prevent the extension of the action of the caustic to adjoining parts.

Erectile tumors, Congenital varicose tumors Mothers' marks, Aneurism by anastomosis, Hematoncus, Telangiectasie, Arteriectasie Aneurisma verum cylindroïdeum, Tissu splénoïde (for by these and by many other terms have these tumors been distinguished), are constituted by a tissue, like that of the penis, the clitoris, and the lips; they usually constitute a soft, bluish, or reddish, more or less projecting tumor, which may be lessened by pressure; they are sometimes circumscribed; at other times they have prolongations. Now and then they present an apparent central fluctuation. They may be completely subcutaneous, or they may implicate, at the same time, the subcutaneous and the cutaneous tissue. Their intimate composition is differently explained by different persons: by some, it is believed to be more or less completely formed of blood-vessels and cells; by others, by blood-vessels alone. In those which I have examined, the tissue was completely formed of blood-vessels, interlaced in many different ways, almost like the substance of the placenta. In some the arterial, in others the venous, system seems to preponderate. The apparently cellular arrangement of these structures is produced by a varicosed condition of the vessels, the pouches, upon superficial inspection, seeming to constitute cells. Whatever degree of extension they may acquire, I have never known them to contain any other matter than capillary blood-vessels, and a small quantity of cellular tissue. I have never seen either fibrous, scirrhous, or medullary tissue in them; but they have, no doubt, often been confounded with fungus hæmatodes. These tumors may be developed in almost every tissue of the animal economy: they are most frequently developed in the skin and subcutaneous tissue, particularly those of the head and face, in the spongy substance of the extremities of long bones, and in internal organs.

Symptoms.—When they exist in the cutaneous tissue, they are commonly presented in the form of a reddish or violet spot, whose after progress is out of all pro-

portion with its feeble beginning. They may be presented in the form of tumors; sometimes projecting like a mulberry or strawberry; sometimes scarcely projecting at all, almost always exhibiting a granular surface like that of the fruit I have named. They implicate the whole thickness of the cutis; sometimes they penetrate into the subcutaneous cellular tissue; when cut into, blood flows rapidly, and is with difficulty arrested. Below these tumors we almost always find a large vascular trunk, by which they are supplied with blood. They often continue stationary for years: in many cases they only begin to enlarge about the time of puberty, but more generally they extend both in breadth and depth from the very first, acquire a darker colour, and are gradually changed into red, uneven, and irregularly circumscribed tumors, compressible and elastic, less tense when the individual affected with them is in a state of repose than when he cries or moves actively; indolent, without inflammation, and generally exhibiting nothing like pulsation when quiet.

In the progress of their development the *subcutaneous* tumors always project to a certain extent upon the surface; but their base is extended: they raise the skin, gradually thin it, and present a reddish or bluish colour; they communicate a peculiar jar to the hand, as if the obscure rushing of a fluid were felt. They are supplied usually by a large artery; and there is a vascular net-work or circle around them. When unirritated, to the touch they are soft, elastic, and compressible: they sometimes yield distinct pulsation; at others, a thrilling sensation. Under the influence of very slight stimuli they may greatly increase in bulk, and enter into a kind of erection, and the adjoining veins often become varicose. They have been known to acquire great bulk, to give way upon the surface, to form the basis of enormous fungiform growths, and to give rise to hæmorrhage so incessantly repeated, and so profuse, as to cause the speedy death of the individual affected.

Diagnosis.—We have rarely much difficulty in the diagnosis of these tumors when the skin is affected; but when the disease is completely subcutaneous, and the skin over it is healthy—when bones or deep-seated organs are the seat of the disease—the difficulties must, of course, increase. Such tumors, completely subcutaneous, have been mistaken for fungus hæmatodes and soft cancer. Yet the absence of lancinating pains, the uncertain fluctuation under the finger, diminution under compression, the appearance of the patient, and the non-existence of the marks of a cancerous cachexia, are usually sufficient distinctive signs.

Prognosis.—These tumors are, in many cases, serious diseases; but their gravity has much reference to the seat of the affection, especially when accidentally developed. Though an erectile tumor may have remained long stationary, and given cause to no uneasiness, yet, with or without apparent irritation, an itching or pricking sensation is felt, something like the creeping of an insect. Under this influence the tumor reddens and swells; after some time the coverings are thinned, give way, and blood flows. It would seem that the extension of these tissues occurs in paroxysms, which are preceded by a local erethism. When deep seated, they increase, make way towards the skin, raise it, and then a bluish colour is presented on the surface, the skin ultimately cracks, and repeated and ultimately fatal hæmorrhage may happen.

Treatment. — Many means of treating these tumors have been employed; first, *upon the principle of preventing blood from entering the tumors. Compression* has been used by Abernethy, and other eminent surgeons, associated, or not, with astringent or refrigerant applications; but however exactly applied—however prolonged and ingenious may have been this treatment—it has seldom succeeded; it has often failed. If the part affected be directly over a flat bone, the forehead, or the temporal region—in fact, any part where a bone affords a solid support, the tumor being small, and not very prominent or highly coloured, well applied compression to the whole surface, and beyond the circumference of the tumor, will now and then succeed in curing it. In one case Abernethy, having satisfied himself that there was increased heat in the part, applied, upon an erectile tumor, compresses wet with a cold *solution of alum*, and with success; but it is a remedy of very trifling value.

The *ligature* has been placed around arteries passing to the tumor, in the same cases, with success; especially where such tumors have occupied the orbit, the face, or the head; but similar means have often failed. In the cases of Travers, Dalrymple, Wardrop, Pattison, Hall, Lallemand, and Roux, more or less complete success attended the operation; in those of Pelletan, Dalrymple, Wardrop, Dupuytren, Walther, Davidge, Maunoir, Maclachlan, Mussey, King, Syme, Brodie, Hodgson, Chelius, the operation more or less completely failed. The operation of the ligature of large arteries is an important one, and often fails; it should not, therefore, be lightly resorted to. The ligature, then, employed in this way, is a mode of treatment, the results of which do not justify its adoption. Upon the same principle,

instead of tying the trunk from whence the branches which feed the tumor proceed, the ligature of these branches around the tumor has been tried, but unsuccessfully, as may be expected, when we consider how very difficult it must be to secure all the branches.

Upon the same view of the case, a *circular incision* was made around the tumor by Lawrence and Physick, so as to comprehend the skin and subjacent tissues, so as to cut off all supply of blood to the part. This method can only be occasionally employed; and, even in apparently favourable circumstances, it will fail, because the large penetrating vessels may be deep-seated, and may penetrate at the centre. Both these modes must therefore be considered as very exceptionable means.

Other methods have been proposed for the *coagulation of the blood in the tumor*, and the *obliteration of its vessels and its cells.* The *seton* has found some favour in this country. It has been employed with success by Mr. Fawdington; has also been employed by Mr. Lawrence, Mr. Macilwain, Mr. Langstaff, and recently by many others; but the results have not been sufficiently favourable to cause it to be often used. It acts by exciting inflammation, by means of which the mass may be consolidated.

The method employed by Dr. Marshall Hall and Lallemand has been successfully used in certain cases. The former advised the use of a cataract needle, the latter used a wider cutting needle. The object of each is to incise the vessels of which the tumor is composed, so as to obliterate them by the production of fibrous cicatrices through the whole extent of the tumor. The advantages of this plan are, that there is no hæmorrhage, no ugly cicatrix, and that the pain is trifling. In small tumors this means may often succeed, but in large tumors little good has, so far as I know, resulted from it.

Sir B. Brodie employs another plan in small subcutaneous tumors of the face, where excision by the knife, or ulceration by the ligature, might leave an unsightly cicatrix. Some small probes have their points covered with a coating of nitrate of silver, which is given to them by fusing the salt in a platina spoon, and dipping the probe into it. One, two, or more punctures must then be made in different parts of the circumference of the tumor, and into these punctures the armed probes must be introduced, and revolved so as to ensure the solution of the nitrate. By this means the diseased structure becomes consolidated, and the affection cured without deformity. I employed it, some months ago, in the case of a lady, aged 26, who had a subcutaneous tumor, an inch in diameter, at the side of the nose, and with complete success. It is well to be provided with sweet oil, to rub over the punctures, lest any of the caustic should escape.

Some years ago, Dr. Cumin, of Glasgow, advised, that when the patient had not been already vaccinated, *the lymph should be inserted* at different points of the circumference of the tumor. Cases of success are given by that gentleman, by Earle, by Hodgson, by Downing; but the general opinion at present is opposed to it. It was tried in a case by Mr. Maclure, which I afterwards removed with the knife, without any benefit, although a good deal of inflammatory action was excited.

Mr. Wardrop has been accustomed to use the *caustic potash*, and, as I understand, with great success. A piece of leather, spread with adhesive plaister, has a hole cut in it of the size of the tumor; the adhesive plaster is then applied, the tumor alone presented at the opening: the caustic potash is rubbed upon it, until a considerable slough must result. In small tumors a single application may suffice; but, when large, repeated applications are sometimes required.

Mr. Tyrrell recommends the application of nitric acid upon these tumors; and, by way of restraining the rapid development of the diseased structure, a line of the acid is placed around, but fairly clear of the disease. He has employed it frequently, and with success.

I have never used, nor seen employed, either the potash or the nitric acid. The eschar in each case must be considerable, and the consequent cicatrix proportioned to it. That the one or the other of these agents is capable of destroying the morbid mass I cannot doubt; but I am inclined to think, that in most cases the object will be better attained with the ligature or the knife.

Mr. Lloyd has inserted into these structures Anel's syringe, charged with an irritating fluid, composed of acid. nitric. min. iij. ad vj. to the drachm of water. This fluid is forced into the tissues of the tumor. If the irritation so excited be insufficient to consolidate the tumor, the injection is repeated again and again. This method has been employed several times, but altogether the results have been unsatisfactory. In one of the Midland counties the consequences in a case were fatal.

Several cases are mentioned where these tumors have been cured by rubbing in tartar-emetic ointment. This plan certainly has an advantage over vaccination; that of being applicable in cases where the patient has already been vaccinated.

Graafe has employed the *actual cautery* for the destruction of these tumors, when small and not deep-seated, and in many cases successfully. Dupuytren said, he

thought the actual cautery one of the most powerful means that could be employed for their destruction; but it does not appear that he ever used it himself.

Petit thought that in some cases the tumors might be *incised* through their whole diameter; and that, to prevent hæmorrhage, a strip of lint, imbibed with some styptic, should be inserted in the wound. And Petit adds, that patients in Italy had died from the operation; and, certainly, the danger from loss of blood is too real to justify the operation on young children, or, indeed, upon any person, so long as we have other remedies without that risk.

For the *extirpation* of these tumors several means are employed: they may be *surrounded by a ligature*; and this is the method most frequently employed in our country. Mr. John Bell and Mr. White passed under the tumor a needle carrying a double ligature; one was tied firmly on one side, the other on the other, so as to strangulate it. Brodie, who also advocates the use of the ligature, raises up the tumor, and passes a hare-lip needle fairly under it; another needle is passed at right angles to, but beneath the first; a ligature is twisted tightly under the needles, so as to cut off completely the supply of blood. The objections to this mode of treatment are, first, that in many cases the whole morbid mass cannot be included in the ligature; second, that the pain is considerable; and, thirdly, that the cicatrix may be unsightly. However, the first, and, on the whole, the principal drawback, may be to some extent got over. When the tumor is ulcerated through, we are enabled to determine, as soon as the surface is exposed, whether any portion of the erectile tissue remains; if so, it may in many cases be destroyed by applying upon it nitric acid.

Next to the ligature, *excision* is probably most frequently employed in the treatment of erectile tumors. Mr. J. Bell thought it the only convenient operation; and a large proportion of the principal surgeons of Europe have confirmed the correctness of his opinion. There is, no doubt, a certain risk attendant upon excision; there is danger of hæmorrhage, unless the excision be made at a certain distance from the tumor, the vascularity in its immediate vicinity being very great. Wardrop lost a little patient under the operation from this cause; an almost similar fate attended a patient of Roux; and, indeed, it would not be difficult to collect a considerable number of cases in which the hæmorrhage has been a very legitimate subject of alarm; but the complication may usually be avoided by making the incision at a sufficient distance from the morbid growth. When the tumor is situated upon a part where it is very desirable to avoid deformity, or where it is very large, and the cutaneous integument is not much affected, Mr. Liston is accustomed to make a crucial incision through the integument over the tumor, to dissect back the flaps, and thus to place a ligature beneath it, and strangulate it. "Of course the incisions through the integument are so made as to leave any portions of skin that may be at all affected still attached to the part to be removed. In this way deformity is avoided, and a large mass more easily included in the ligature." Gensoul, for many years, has been accustomed to raise and isolate the tumor, when the surrounding tissues allow of applying upon the base a single thread. In this and other modes of using the ligature, it is sometimes convenient, when it is tightened, and the tumor very tense, to make an incision through to relieve it.

M. Vauli, some years ago, recommended *tattooing* as a means of curing erectile tumors. A mixture of white lead and vermilion, rendered as near as may be of the colour of the skin, is spread over the part, and pricked into the tumor. I have had no experience of the value of this agent, and, therefore, I do nothing more than indicate it.

In summing up the question of treatment, I would say, that when the tumor is small, and situated in a part where it is unnecessary to raise the question of slight deformity, that the *ligature*, after the plan commonly used by Brodie (the cross needles), and *excision*, are the agents which may be resorted to with most confidence. *Caustics* are painful, and less certain; the disease will now and then make rapid progress under the irritation they occasion; repeated applications are sometimes necessary, the cicatrix which follows the ulcer is unsightly, and the time occupied long. *Compression* and *vaccination*, except under very particular circumstances, such as I have already described, are too uncertain to be employed. Needles passed through the tumor will sometimes, when small, succeed; but if it be deep seated, it cannot be approached by this means, which, under any circumstances, would be much more tedious than the ligature and the knife. So I might say of the seton: it is uncertain, it is painful, tedious, and leaves a larger cicatrix than the knife. My leaning is in favour of the knife rather than the ligature; the latter is painful in its application, and the pain frequently continues for hours; you are not certain that you have included the whole of the diseased structure; at the end of some days, when the base is cut through, you have a considerable ulceration; and, probably, you then find that some of the morbid structure still remains, which must be destroyed

by caustic, and a large cicatrix may remain. As to the former, I know, that, to a mother's eye, it is more formidable than a needle and thread, and that, if incisions be made too near the tumor, the hæmorrhage may be great; but I also know, that it is a less painful operation than the ligature; that, if the incision be properly made, the fear of hæmorrhage is not great; that, by examining the part which you have removed, you can ascertain whether any portion of the disease still remains; and, if the parts can be brought together, the deformity is exceedingly trifling—a mere linear mark. For these reasons I prefer the knife to the ligature in most cases.

If the tumor be seated on the face, it is necessary, as much as possible, to avoid deformity, and then we may try the lunar caustic as recommended by Sir B. Brodie, or, that failing, we may use the ligature or the knife; but if the tumor be near the angle of the eye, or any other part where a cicatrix from ulceration, or the dragging the lips of the wound together, would cause deformity, we may employ Mr. Liston's operation. When these tumors are very large—too large for the ligature, too large or too deep for excision—the seton has been tried, and very often failed. Here Mr. Liston's operation of cutting down upon the base of the tumor has several times succeeded. When they occupy the spongy extremities of long bones the treatment necessarily varies. Many means, such as cold, mercury, antiphlogistics, have been unsuccessfully employed. The ligature of a large arterial trunk passing to the point has succeeded, when employed before the structure of the bone is much changed, in the hands of Lallemand; in other hands it has failed, the disorganisation of the bone has continued, and amputation has become necessary. In some cases there is a constitutional tendency to produce the disease, and then even amputation fails.

ONYCHIA.

Onyxis, *Reduviæ* of the Latin authors, *Onglade* of Astruc, *Ongle entré dans les chairs* of Desault, *Corruption de l'ongle* of Plenk, *Ongle incarné* of Monteggia, *Onychia maligna* of Wardrop, are terms which have been applied to certain pathological conditions of the matrix of the nails; in all of which there is inflammation, and suppuration of the surface of the finger or toe upon which the nail is implanted.

One of the most common varieties of the affection is that which is occasioned by contusion of the ends of the fingers or toes, or punctures under the nails. These injuries are often followed by acute inflammation, suppuration, and loss of the nail. A second variety is characterised by "the growing in of the nail;" which sometimes follows the use of tight shoes or stockings, sometimes results from mechanical irritation, faulty conformation, or irregular growth, or cutting too short the nail. The great toe, and especially its outer edge, is the common seat of this variety of onychia; it is rare in others, and has perhaps never been seen in the fingers. A third variety seems to depend upon internal causes.

However produced, the symptoms vary with the extent of the disease. When limited to a point of the circumference of the nail, the skin is red, tumid, and painful, and fever is manifested. The redness may extend up the arm or leg to the axilla or the groin. When the whole or the greater part of the circumference of the nail is affected, the symptoms are similar, but more intense. When the cause is internal, it is often at its commencement chronic; the inflammatory redness is less vivid. The *first* may end in resolution; but oftener it proceeds to suppuration: the pus accumulates, forms a tumor at the base of the nail, and, when it is set free, the nail is found partially detached. But the nail does not come away; new laminæ are formed, and the detached point is ultimately pushed to the end of the finger or toe. If, however, the inflammatory action be more chronic, and the patient continue to walk about, fungous granulations are formed, which overlap the nail, and constantly keep up irritation. The *second* is more intense; suppuration is inevitable; the nail ultimately gives way; and the matrix, relieved of its irritating cause, forms a new nail. When, owing to an internal cause, the disease is less acute, the nail is detached at several points, remains adherent at others, and assumes more or less the character mentioned by Wardrop.

When the great toe is the part affected, at first the patient complains of a difficulty in walking, which is usually little attended to; but it soon gets worse, and the soft parts, in consequence of the tumefaction, are pressed upon the outer side of the nail, and the skin ultimately gives way. Walking is then impossible; an ulcer is formed, fungous granulations spring up; and the patient can no longer put his foot to the ground, except by resting on the heel. The suppuration is profuse and very offensive, and the inflammation sometimes extends to the periosteum or the bone.

Wardrop, under the term *onychia maligna*, describes an affection, marked at first by a slight degree of swelling, and a red circle surrounding the root of the affected nail. It is most commonly seen to affect the great toe and the thumb. The kind of crescent formed by the skin over the root of the nail gradually changes into a roll of a purple red colour, most raised, and most

acutely sensible, at the point where the nail adheres most intimately. This is before long occupied by bleeding and fungous sores. Purulent matter of a brownish, greyish, or greenish yellow colour, very fetid, and often mixed with blood, escapes in considerable quantity. The nail thickens, loses its colour, becomes of an earthy-yellow or blackish-green hue, and is detached at its root. At length it falls spontaneously or is taken away. Thus divested of its natural covering, the secreting organ looks red, inflamed; covered with yellowish or greyish fetid pus; the surface bleeding when moved, or in contact with the air. Abortive nail-like productions are formed, and keep up the irritation: the pain is most intolerable. Red lines on the affected parts announce the extension of the inflammation to the lymphatic vessels or to the neighbouring veins. A febrile state often accompanies the disease when arrived at this severe stage, and sleep is entirely broken.

Onychia may depend upon syphilis, and then it often affects several toes, or even the whole of them at the same time; and it is almost always accompanied with unequivocal symptoms of venereal infection. In these cases the whole root of the nail is soon implicated; the nail is loosened and ultimately completely detached; fungous, but sometimes tolerably characteristic ulcerations are presented. The distinguishing character of this kind of onychia is its occurrence without any appreciable outward cause; and it is distinguished in one case by the greyish and eroded appearance of the sore, in another by general syphilitic symptoms; but, in many cases, the influence of mercury in curing it is the best test of its nature.

When any of these diseases affect the fingers it is less severe, less obstinate, than when it affects the toes. That from internal cause is more painful than that which results from contusion or wound. That in which the nail "grows in," the flesh being constantly irritated by the nail, is often very severe.

Treatment.—Among the means of treatment recommended, we find thinning the borders of the nail, so as to lessen its power of pressing upon the soft parts; scraping the centre until very thin; and in slight cases either may do. But we are not treating the proper cause of the disease; it is not the nail which grows into the flesh, but the soft parts which grow over the nail. There can be no doubt that removing the part which is irritating will relieve for a time; but the soft parts will again grow towards the nail, and a new section will be necessary. Avulsion has found many advocates, still the same erroneous principle is carried out; of course, I do not now allude to those cases in which the nail is already almost completely detached, but only those cases in which it is still adherent all around. The operation, as usually practised, is an extremely painful one, and success is not always complete; irregular portions of nail are often developed, and cause new irritation. The older surgeons raised the nail, and with caustics destroyed the fungous flesh; others permanently raised the nail by means of little dossils of lint, gradually increased in size, and repressed the fungi by caustics. Paré, and others, fairly cut away the projecting integuments below the level of the nail; but even here dossils of lint are required.

In a first degree we may usually arrest the progress of this disease. Horizontal position, and a piece of lint or sheet lead, have often succeeded in raising the nail and shielding the flesh; but if fungous granulations already exist, the attempt to introduce the lead will be very painful and useless. The plan recommended, many years ago, by Biessy, will in each case be a much less painful and more effectual mode of treatment, (and is performed very nicely by Durlacher,) that is, to pare down the nail on the affected side until it is so thin as to be easily removable. In 1830, Biessy varied his plan: the surface was scraped until the nail was, at the centre, reduced to half its original thickness; several times lunar caustic was plentifully applied to the thinnest part; "the edges of the nail are by this means retracted, and the affected side is detached from the flesh," and a small roll of lint is interposed. Sometimes, in neglected cases, all these means may fail. In such cases, Dupuytren was accustomed to subdue the inflammation by rest and emollients; then to grasp the toe with the left hand, the right being armed with strong scissors, whose pointed branch was introduced under the centre of the free border of the nail, plunged rapidly backwards until it had passed three lines beyond its apparent posterior border, and the nail was then cut into two equal parts; the half of the affected side was then seized with a forceps, and twisted off towards the diseased part. If the fungus is very large, it must be excised or cauterised: the ulcerated surface rapidly cicatrices. In old persons the nail is not usually reproduced, in young persons it often happens; but the disease is rarely again developed. In those cases where the whole matrix seems diseased, its complete destruction is sometimes called for, either by means of caustic or a cutting instrument; the former remedy is very painful and uncertain, the latter is also painful, but much more certain. If the knife be used, a semicircular incision is made parallel to, and three or four lines beyond, the root of the nail, and

the flap with the nail dissected off. If the disease have extended to the phalanx, and produced caries, amputation of the toe or finger may be necessary.

PROTECTING POWER OF VACCINATION.

[For a previous extract from the Report of the Provincial Medical and Surgical Association on this subject, see p. 825.]

It has been assumed that the lymph now in use is less active, and that the vesicles which it engenders are less developed and perfect than they were in former years; and to this circumstance has been ascribed the increased number of cases of small-pox after vaccination which have been recently observed. We are quite prepared to admit that lymph of this deteriorated quality has been too often employed, but we do not think that this circumstance at all justifies the conclusion that has been drawn from it. About the years 1817, 1818, and 1819, many complaints arose from different parts of Europe of the imperfect or inefficient character of the lymph then in use. A vast number of inoculations were performed with lymph of this character. How far it may have been diffused it is impossible to tell; but it is highly pertinent to observe that a great majority of the failures which are said to have occurred of late years, probably happened among persons who received this deteriorated lymph, it having been observed that individuals who had been vaccinated about the periods above mentioned, have been principal sufferers from small-pox. Within these few months we have seen vesicles produced by lymph very recently obtained from the cow, and vesicles produced by lymph transmitted from one subject to another for a long series of years, and no defect in the in the qualities of the latter could be detected, they being equally complete and well formed with the former. The same truth is substantiated by one or two of our correspondents, especially by Mr. Taylor, of Cricklade, who says, in reply to one of the questions, "I had an opportunity some years ago of using lymph obtained from the cow, and my impression at the time was, that the character of the vesicles was essentially the same with that obtained from the older lymph." The testimony of the National Vaccine Board is precisely in accordance with this experience, as may be seen by reference to their last report.

While we feel ourselves called upon thus to express our belief in the permanent influence of duly conducted vaccination, we would at the same time recommend the employment of genuine vaccine or equine lymph whenever it can be obtained, cautioning gentlemen to acquire such a knowledge of the disease among the inferior animals as will prevent them from employing matter from other eruptive affections which afford no protection at all, and which caused much perplexity to Dr. Jenner in his early investigations. The means of producing the true disease are now, by the labours of Mr. Ceeley, placed within the reach of every one, and those incorrect pustules to which cows are liable, and which it is to be feared have too often afforded spurious matter for inoculation, will henceforth be avoided. It is needful to bear these things in mind, as we perceive that the efficiency of the virus has recently been estimated by the degree of excitement, both local and general, produced in the constitution. We have lately seen several instances where the disturbance was very great, and we are anxious to reeal to the minds of our professional brethren the important observation, that extensive and active local inflammation, so far from betokening perfect vaccination, is almost invariably symptomatic of the reverse. In proof of this, we would refer to the beautiful representations of the vaccine vesicle originally published by Dr. Jenner, and the cautions delivered by him on this very point. In connection with this subject we may mention another practice which has arisen, we believe from incorrect views of the best means of producing vaccine influence. All who imagine that local or constitutional irritation measures the intensity of the effect, wish, of course, to increase that intensity by employing what they conceive the most active virus, and multiplying the number of vesicles. The insertion of the virus in three, or, at the most, four places, we believe to be quite sufficient. This will allow of one or two of the vesicles to be opened for the abstraction of lymph, and the others to proceed in their regular and undisturbed course. If this be done, and the lymph be pure, and the constitution unoccupied by any other disorder, the protection will be as great as if a much larger number of pustules had been excited. This truth is in some degree illustrated by the analogy of small-pox itself, as many of the secondary cases have occurred in individuals who previously had the disease in a severe form.

Another law with regard to the protecting power of vaccination has been recently laid down. Vaccination, it it said, may afford a degree of protection amounting almost to perfect security during the early period of life; but that it loses this protecting power at the age of puberty, and undergoes a gradually diminishing influence from this time to confirmed manhood. Some tables published in the last Report of the Small-Pox Hospital, seem to coun-

tenance this idea. It is assumed that this proposition could not have been known to Dr. Jenner and his immediate followers. We are not exactly aware of the grounds on which this opinion rests. Dr. Jenner lived twenty-seven years after the inoculation of his first patient, Phipps. More than two generations must have reached the age of puberty in that interval, and, if the truth be as it has been represented, it must have been as fully brought to light before his death, as at this period. But seeing it has only been started lately, and the instances by which it is supposed to be confirmed have occurred since his decease, we may infer that they may have arisen from a cause of a different kind. Eighteen or twenty years ago, as has already been said, complaints were very generally made of the imperfection of the vaccine virus. Inoculations performed at that time with such imperfect virus, may perhaps explain the reason why so many failures have taken place in persons of the ages referred to in the tables.

It is our duty also to specify that the information derived from the ablest medical gentlemen in Gloucestershire, and from enquiries instituted respecting the state of patients vaccinated, both by Dr. Jenner and his immediate connections, gives no support to the notion. Had it been well-founded, many epidemical attacks of small-pox which have prevailed in this district, must have confirmed it. In the town of Cheltenham there has been considerable prevalence of small-pox during the last few months. We have had several cases of small-pox after small-pox, one of which was fatal. There have been cases of modified small-pox after vaccination, but these failures have certainly not happened uniformly at the period at which we are taught to expect them.

From an impartial review of the whole of the evidence submitted to us, we are called upon to declare that, with one exception, we do not find any thing to authorize statements respecting periodical failure. That the protecting of cow small-pox may disappear, must be conceded; but this is no more than occurs with those who have had human small-pox, for they are alike subject to a second attack of the same disease. After the demonstrations already given, we feel ourselves called upon to stand firmly upon this ground. Opinions, which formerly admitted only of analogical illustration, have now received direct and positive confirmation, and we, therefore, hold it to be proved beyond all doubt, that the same general laws which govern human small-pox, apply, "*mutatis mutandis*," to cow small-pox. We have a great weight of testimony, all entitling us to assert that the cow small-pox, duly and efficiently communicated to man, does not lose its influence by time. From personal observation, we are entitled to speak with considerable confidence on this point; and many of our correspondents, who have been longest acquainted with the practice of vaccination, tell us that they have met with nothing leading them to believe that such a law exists with respect to the disease. Some have not specifically touched upon this part of the subject, but the proportion of those who speak decidedly respecting both the completeness and the permanency of the protection, may at least be quoted as ten to one. We have such expressions as the following:—"Vaccination properly performed, not transient, nor evanescent."—"When perfect vaccination affords not a temporary but an unlimited protection."—"When it is genuine, its protection continues throughlife."—"Feels no fear if the virus be good, and if it go through all its stages."—"Protection complete through life if the perfect disease be given." It is unnecessary to produce more language of this kind.

Conflicting evidences we have. There is, however, no other way of proceeding on such occasions but by recurring to first principles. The questions therefore we are constrained to ask, when we hear of a great number of cases of small-pox after vaccination, are—

1.—Has the lymph been pure and perfect?

2.—Has the development of the affection been regular and complete?

3.—Has the state of the recipient, both with regard to the condition of the skin and other constitutional peculiarities, been such as to present no impediment to the regular course of the affection?

We find that all the gentlemen whose sentiments are most firm and uncompromising, and who apppear to have most carefully watched the character and progress of cow small-pox, have paid the most undeviating attention to these points. They never take lymph from an imperfect vesicle, nor at an improper time; they are not satisfied if the arcola appears too early, or if it is irregular in its form; they never consider a patient safe unless one or more vesicles have been left untouched. Now all these are conditions the value of which has been ascertained by the experience of forty years; and it admits of no dispute, that gentlemen who have sedulously kept them in view have had reason to be gratified with their success. It is not for us to say whether, under circumstances of a more unfavourable nature, all these essentials have been attended to; but it becomes us to say, that unless they have been invariably attended to, no one is entitled to assert that vaccination has been

duly performed. Could we apply this principle to some of the most discouraging returns presented to us, we are confident that they would wear a very different aspect from what they do at present. In one or two of these examples the vaccinations have been performed by persons not at all connected with the profession, and of the lowest and most illiterate classes.* We cannot, therefore, be surprised that disappointment should occur when so delicate a process is conducted by such unskilful hands.

All cases of reputed vaccination, unless they have passed under the review of a competent judge, who has witnessed the different stages of the affection, should be considered as no vaccination at all.

Until this canon be universally admitted and acted upon, we shall never have attained the complete security that vaccination is capable of affording. Failures may still occur, but they will neither be so numerous nor so fatal as they have been reported. We have abundant evidences for these positions, derived from long experience; and have now the superadded confidence obtained from a real knowledge of the nature of the disease of which we are treating. Cow small-pox and human small-pox, we repeat it, are alike in their general properties; and if the latter, once taken, for the most part prevents subsequent atttacks, so, in like manner, does the former.

* Itinerating quacks, petty tradesmen of an inferior order, blacksmiths, excisemen, nurses, druggists, &c.; the poor, one with another.

VACCINATION EXTENSION.

Bill enttitled "An Act to Extend the practices of Vaccination." (Presented by Lord Ellenborough.)

1. WHEREAS it is expedient to extend the practice of vaccination, be it therefore enacted, &c., that from and after the passing of this act it shall be lawful for the guardians of every Poor Law Union in England and Wales, and they are hereby directed, to contract with the medical officers of their several unions respectively for the vaccination of all children who may be brought to them for that purpose.

2. That such guardians shall, after consultation with such medical officers, from time to time appoint and give due notice of the appointment of such and so many convenient places and times as to them may seem fit at which such medical officers shall attend to vaccinate all children who may be brought to them for that purpose: provided always that not more than three calendar months shall in any case clapse between the times at which such medical officers shall so attend.

3. That such medical officers shall make a report to the guardians of the several Poor Law Unions in which they may act respectively, on the next day of the meeting of such guardians after every such time so appointed as aforesaid for the vaccination of children, of the number of children then vaccinated, and from time to time shall make such further report with respect to the children so vaccinated as the guardians of the several Poor Law Unions, under the direction of the Poor Law Commissioners, shall require.

4. This clause gives certain powers to guardians as to medical contracts.

5. That every such medical person shall give the like attendance, and make the like reports, as is and are herein-before required from the medical officer of any union.

6. This clause provides that the guardians are to transmit a copy of every contract to the Poor Law Commissioners, who may annul the same, &c.

7. This clause enacts that the guardians of the Poor Law Unions in Ireland are to divide their unions into districts, &c.

8. That all the provisions herein-before made with respect to the Poor Law Unions in England and Wales, for the appointment and giving due notice of the appointment of the places and times at which such medical officers or persons, shall attend to vaccinate such children, and for the making of reports by such medical officers, shall apply to all such contracts as may be made under this act by the guardians of any Poor Law Union in Ireland.

The Marquis of Normanby thought that a clause ought to be introdueed to prevent, by a penalty, the inoculation for small-pox. Some of the heads of the medical profession had told him, that if such a penal clause were not introduced, the noble Lord would not effect half his object.

The clause was agreed to, and the bill went through the committee.

SKETCH OF THE PATHOLOGY OF AMAUROSIS.

To the Editor of the Medical Gazette.

SIR,

I HAVE sent you a sketch of the pathology of amaurosis, which I should feel obliged by your inserting in the MEDICAL GAZETTE.—I am, sir,

Your obedient servant,

EDWD. HOOKER.

15, Featherstone-Buildings,
March 28, 1840.

The term amaurosis, considered simply as regards its Greek derivation (ἀμαυρόω, to obscure), would comprehend all forms of obscurity of vision, however produced, whether resulting from disease of the cornea, lens, vitreous humour, retina, or choroid. But a direct definition of what is really included under this head, would comprehend all forms of imperfection or loss of vision which result either from the diminution or the entire loss of nervous sensibility, whether functional or organic, sympathetic or symptomatic.

This definition evidently includes a genus of morbid affections; not one invariable pathological condition induced by different exciting causes: thus inflammation and want of nervous energy of the retina will both produce imperfection or loss of vision; the one characterized by vascular derangement, tending to disorganizing results, the other by loss of tone simply. In like manner, various disorders and diseases of the optic nerve and brain frequently occasion amaurosis as a prominent symptom of their existence, and indeed sometimes, as the most marked and distressing proof of their advance, to terminate perhaps in the slow but certain destruction of the patient. The visual nervous structures are, moreover, sometimes simultaneously affected, with or without a corresponding condition of the general nervous system, the result of some local causes in the one instance, or in the other, as is most frequently the case, from general or constitutional affections, when the general vascular system is either above or below par, and the nervous system permanently excited or suffering from derangement, debility, and irritation: thus we have a class of amaurotic cases from debility, irritation, hyperæmia, and anæmia.

It will be evident, therefore, that under the name of amaurosis, very dissimilar and even opposite conditions of the visual nervous textures are included; and, indeed, that amaurosis (meaning by the term blindness more or less complete, depending on deficient nervous sensibility, however produced) is a symptom of very different pathological conditions, affecting either the retina, optic nerve, or brain, individually and separately, or the whole simultaneously and conjointly. To these we may add irritation or disease of the nervus trigeminus, within or external to the cranium.

The following is a tabular view of its pathology, which I have elsewhere indicated as its correct division * :—

Amaurosis from Affections of the Retina.

1. Inflammation, acute and chronic.
2. Organic changes the results of inflammation.
3. Pressure operating on the retina.
4. Injury from blows, wounds, &c.
5. Analogous and heterologous changes.
5. Atony of the retina.

From Affections of the Optic Nerve.

1. Optic neuritis, acute and chronic.
2. Organic diseases and changes.
3. Pressure operating on optic nerve.
4. Injury.

From Affections of the Brain.

1. Acute and chronic encephalitis, and results.
2. Organic diseases within the cranium.
3. Sympathetic derangement.
4. Injury, concussion, laceration, &c.
5. Apoplexy, and disordered circulation within the cranium.

From Affections of the Visual Nervous Apparatus.

1. Debility.
2. Anæmia.
3. Hyperæmia.
4. The operation of certain poisons.

From Affections of the Nervus Trigeminus.

1. Affections within the cranium.
2. ——— external to the cranium.

1. Congenital amaurosis.

I will now make a few observations on these several pathological headings; and first, of the retina.

α. Acute and chronic inflammation of the retina and choroid tunics, occasion amaurosis as the most marked symptom of their progress; the inflammation, by its violence and activity, extending occasionally to the other textures of the eye, and producing complete disorganization and collapse of the eyeball, or exist for a length of time in a very chronic and insidious form, and at length induce organic changes, with complete or incomplete abolition of the visual function.

β. Organic changes the consequences of hyperæmia.—These are, first, a varicoss condition of the vessels of the re-

* Treatise on Amaurosis and Amaurotic Affections, p. 100, 101.

tina or choroid, which may be the permanent result of long-continued dilatation of either the arterial or venous systems; secondly, the usual results of inflammation—as induration, unnatural adhesions to contiguous tissues, thickening, opacity, &c.; or the membrane of the pigment may be injured in divers ways, or vision be impaired by changes in the quantity or quality of the pigmentum nigrum.

γ. Pressure operating on the retina, may, under certain circumstances, induce amaurosis: thus blindness, more or less complete, is induced by vitreous, sub-choroid, and sub-sclerotic dropsy; by tumors elongating and protruding the globe, and occasionally from a depressed lens.

δ. Injury of the retina from blows, wounds, &c. occasion more or less injury of the nervous substance, or produce rupture of its blood-vessels, with consequent effusion: very slight blows will be sufficient to injure, perhaps permanently, the organization of the retina, when the eye is unprepared for violence.

ε. *Organic changes.*—The retina may become considerably changed in its structure from fungus hæmatodes or melanosis, or it may be softened, ossified, atrophied, or even entirely absorbed, or there may exist a congenital deficiency or arrest of development.

ζ. *Atony of the retina.*—The tone of the retina may be destroyed or deranged by causes acting gradually or suddenly, quite independent of general debility, in a similar manner as the nervous powers of all other parts of the system may be diminished or destroyed by excessive employment or powerfully depressing and rapidly enervating agents.

Pathology of the Optic Nerve.

α. Acute or chronic inflammation may occur in the optic nerve or its neurilema, and give rise to the formation of abscess and other organic changes. Mr. Middlemore has seen the neurilema hypertrophied to such an extent as to cause the absorption of a great part of the nervous matter it enveloped.

β. Malignant and other formations may originate in the optic nerve or its neurilema, or implicate it in their progress, or the nerve may be entirely absent, or possess an originally defective structure.

γ. Injury of the optic nerve is frequently combined with compression, as from sharp or obtuse bodies being thrust into the orbit.

δ. *Pressure on the optic nerve.*—A variety of causes may produce amaurosis from compressing and irritating the optic nerve: viz. exostoses, hyperostosis of the orbit, orbital encysted and other tumors, malignant affections, hypertrophy, &c. of the orbital cellular substance.

Pathology of Parts within the Cranium.

α. Acute and chronic encephalitis and consequences, frequently produce amaurosis, as in the latter stages of hydrocephalus, &c.

β. Organic diseases, namely, tumors, malignant diseases, organic changes, the sequents of inflammatory action, or, in fact, amaurosis, may result from any disease, under certain circumstances, of the brain, its membranes, or of the bones, compressing or irritating the brain. In some rare cases of amaurosis it has depended solely on disease confined to the spinal cord.

γ. Sympathetic irritation, as from disorders of the stomach and primæ viæ, uterine disease, &c.

δ. *Apoplexy and disordered circulation within the cranium.* — Amaurosis accompanies and precedes apoplexy, and sometimes remains as its permanent effect, and frequently attends a condition of hyperæmia or disordered circulation within the cranium from excess of arterial or venous blood, or the opposite state from anæmia or a deficient supply of arterial blood.

ε. Injury of the brain has been known to give rise to amaurosis, as one of its most prominent symptoms.

The Pathology of the Structures conjointly.

α. Hyperæmia may be the result of general fulness of the body (plethora), or of the various causes of local congestion, tight neck-cloths, impeded return of venous blood from the pressure of tumors, diseases of the heart and lungs, &c.; thus producing disturbance of function.

β. *Anæmia.*—The functions of these parts, in a similar manner to all the other functions, languish from an imperfect supply of vitalized or arterial blood; and it is by no means unusual for amaurotic symptoms to be developed

after profuse evacuations, or diseases which induce excessive debility.

γ. Certain poisons produce amaurosis; as belladonna, hyoscyamus, &c. probably by their influence on the brain and retina, and partly by the excessive dilatation of the pupils which they occasion.

Pathology of the Nervus Trigeminus.

α. Injuries and diseases within the cranium produce amaurosis (if anterior to the gasserian ganglion), destructive inflammation, and ulceration of the cornea, and, lastly, evacuation of the contents of the globe and collapse of the tunics.

β. *Affections of its branches.*— Wounds of the forehead have been observed to be occasionally followed by blindness, by different authors, as far back as the days of Hippocrates, who observes, that "the sight is obscured in wounds which are inflicted on the eyebrow or a little higher." Blindness is sometimes produced by wounds, irritation, or disease of other branches besides the frontal: Wardrop says even by the portio dura.

In congenital amaurosis, there is always some original defect or arrest of development, seated either in the retina, optic nerve, or brain, with or without other defects of organization in the eye, which abundantly accounts for the imperfection or entire absence of the sense.

It will be evident, from such a view of the pathology of amaurosis as just delineated, that I regard the term much in the same light as the vague appellation of ophthalmia, applied to all inflammatory affections of the eye, whether seated in the entire organ or in one or more of its component tunics or appendages. Indeed it appears to me to hold exactly the same relation to its several varieties (varieties denoted by separate symptoms, and frequently demanding modified or even diametrically opposite treatment), as the genus ophthalmia holds to the several subdivisions of the ophthalmiæ; standing, in fact, in relation to them, simply as a generic term; there being no one disease, no one invariable pathological condition, which deserves the specific appellation of amaurosis: we must, therefore, speak of them as amaurotic affections or diseases.

In the diagnosis of the various forms of amaurotic derangements, it is of the greatest importance to examine into their previous history and origin, their progress and early symptoms; to acquaint ourselves with their exciting causes, real or apparent, the previous and present health, the constitutional peculiarities, derangements, and idiosyncracies of the affected individual. As regards the present symptoms, we must take into consideration the form, size, and feel of the globe, its general healthy or diseased appearance, the condition of the forehead and teeth, and of other situations connected with the ramifications of the nervus trigeminus, as well as the other objective appearances of the parts affected, which the practitioner can ascertain by the senses of sight and touch; as also a strict investigation into those defects of sensation, morbid appearances, and the various pains and discomforts of which the patient complains. Such are the means of forming a correct diagnosis of the existing pathological condition, and thus to employ those remedial measures which such a condition would indicate, without delay or loss of time; as the chance of ultimate success depends, in no small degree, on the promptitude with which the symptoms are appropriately and actively combated.

TREATMENT OF CHILBLAINS BY IODINE.

To the Editor of the Medical Gazette.

Sir,

I am induced by the season of the year, and the consequent frequency of chilblains, to recommend to the profession a remedy which I believe I have been the first to employ in that form of local inflammation, and to solicit a trial of it by others; when I hope it will be found equally efficacious in their hands as it has proved in mine. Perhaps I shall be told that chilblain is a trivial ailment, and that there are already a hundred remedies for it, which, if diligently applied, will speedily effect a cure. That chilblain is not a trivial complaint, the records of every ladies' boarding-school in the kingdom will amply testify. I remember one young lady who was sent to Edinburgh for her education, but, being attacked with chilbrain of the heel early in the winter,

was confined for many weeks to her bed, or sofa, and at length returned home without having received almost any benefit from the expense which her parents had incurred. Another young lady, in a boarding-school near Bath, last winter, was confined to the sofa for a considerable length of time, during a great part of which she required the daily attendance of a surgeon to dress the ulcers which the chilblains had occasioned. The remedy to which I wish to call the attention of the profession is no other than Lugol's solution of iodine, which is to be rubbed on the chilblained spot with a bit of sponge twice daily; and generally, after the second application, the itching, pain, and livid redness are gone, the tumefaction has subsided, and the part is covered with a shrivelled shining cuticle, stained, of course, with the iodine. This treatment ought to be assisted by covering the hands with soft leather gloves; and the feet, if they should be the seat of the chilblains, with chamois leather socks: but I do not mean to say that it will not prove effectual without such precautions. The pain caused by applying the solution of iodine is sometimes pretty sharp, but it is not of long duration; it is less severe, and certainly much less alarming, than the popular remedies of singing with a red-hot poker, or setting fire to oil of turpentine smeared over the part. I have not employed the iodine in any case of ulcerated chilblain; but I have no doubt it would prove equally beneficial in such cases by dressing the ulcer with lint dipped in the solution. The form which I have used is the solution of Lugol; but the tincture promises to be equally efficacious. I shall not trouble your readers with the detail of cases, but content myself with having thus stated the results of my experience. The power of iodine in arresting, by its application, the progress of inflammatory action has, not received that attention from medical men which it truly deserves. On a late occasion, a gentleman was affected with severe throbbing pain in the socket of a canine tooth, and inflammation of the adjacent gum: the tooth itself having become loose, which was satisfactorily ascertained by the examination of an experienced dentist, the solution of iodine was applied freely to the gum and tooth at bed-time; next day the pain was almost gone; but the patient could not bear the tooth to be firmly pressed: this symptom, however, gradually disappeared, and the tooth again became firmly rooted in its socket.

Should any gentleman be induced, by what I have said, to make trial of iodine as a remedy for chilblains, I shall feel obliged by his communicating the result of his practice through the medium of the GAZETTE.—I am, sir,

Your obedient servant,

ΘΕΡΑΠΕΙΑ.

Feb. 29th, 1840.

CASE OF POISONING BY AROMATIC SULPHURIC ACID.

To the Editor of the Medical Gazette.

SIR,

BY inserting the subjoined case in an early number of the GAZETTE you would oblige

Your obedient servant,

A. BLYTH.

March 13, 1840.

February 20th.—A young woman, ætatis 20, having swallowed ʒx. of this acid in mistake, thinking it to be a black draught, the following symptoms presented themselves:

A sharp, burning, and disagreeable taste, great heat and pain in the stomach and œsophagus, accompanied with constant vomiting of a dark-coloured liquid, streaked with blood, with great difficulty of deglutition. Calcined magnesia, suspended in water by means of mucilage, was administered, which was immediately ejected by vomiting; warm water was also freely given, in order to clear the stomach of any remaining acid. Most of the acid, however, had been ejected before I visited her by drinking some warm coffee immediately after she had taken it. Antimonial wine had also been taken in order to produce vomiting.

After the whole of the acid had been ejected, diluents were freely administered, and a mustard poultice applied to the pit of the stomach.

The stomach still continued very irritable, liquids being immediately ejected by vomiting. Towards evening the pain and heat in the region of the stomach had greatly subsided, nausea and vomiting still continued, but the matter ejected was not of so dark a colour, and without any stain of blood. She complained of acute pain and burning

heat of that portion of the pharynx opposite the thyroid cartilage: there was considerable thirst, and constant discharge of salival fluid from the mouth. She also experienced a sensation resembling the globus hystericus. About eleven hours after the poison had been taken a considerable discharge of blood took place from the rectum, but there was no tenderness of the bowels upon pressure. Ordered twelve leeches to be applied to the throat.

Feb. 21st.—Did not rest all night, from the constant discharge of fluid from the mouth. Several white sloughs have formed on the tonsils and arches of the palate. No tenderness of the epigastrium or abdomen. Still complains of great pain in the pharynx and back of the mouth. The sickness has ceased, and fluids remain on the stomach: still considerable difficulty in swallowing, also slight cough, apparently arising from elongation of the uvula. A blister was applied to the throat.

Feb. 22nd.—Much better; inflammation of the œsophagus entirely subdued. An astringent gargle was prescribed, and she is now rapidly recovering.

The above case is chiefly remarkable for its rapidity of cure.

Melville Hospital, Chatham.

HOMŒOPATHY*.

To the Editor of the Medical Gazette.

SIR,

I THANK you for your liberality in inserting my letter. My object was not to attempt to criticise the whole of that of Mr. Smith, but to show that the arguments which he adduces to prove that the homœopathic doses cannot possibly produce any effect, are valueless, since it is now pretty generally admitted by homœopathic practitioners that *electricity*, or some power analogous to it, comes in aid of the specific action of the remedy administered. When this power is developed, it matters little whether the billionth or the decillionth of a grain be given. It is, indeed, almost equally difficult to conceive that the one or the other, in their ordinary state, could have any effect.

The susceptibility to the action of homœopathic medicines varies very considerably in different constitutions, and probably depends upon the quantity of electricity contained in the body. In corroboration of this, I may mention the case of a lady now under my care, who can bear only the smallest imaginable dose. Her system appears to be so loaded with electricity that, on taking off her under flannel dress in frosty weather, a crackling noise is perceptible; and, in the dark, sparks are often visible.

Should you be able to find space for these additional remarks, my object in noticing Mr. Smith's letter would be made more evident.

Nothing would give me more gratification than to assist in a fair discussion on the merits of homœopathy; and as I only seek truth, were the system proved to be a chimera, no one would more sincerely desire its downfall than myself.—I have the honour to be, sir,

Your obedient servant,

HARRIS DUNSFORD, M.D., M.R.C.S.

28, Somerset-street, Portman-quare.
March 7th, 1840.

To the Editor of the Medical Gazette.

SIR,

YOUR pithy remarks, appended to Dr. Dunsford's reply to my notice of homœopathy, have almost removed all grounds for claiming at your hands a farther space; but, as the homœopathists' "best friend," I do beg, "on equitable principles," permission to render them a little more assistance.

Dr. Dunsford, after a short preliminary flourish, commences by denying Mr. Smith's right to criticise homœopathy, simply because it is evident he has not tried it. Not tried it! What, sir, am I to prostrate my judgment before dogmas demonstrably absurd, and, in spite of reason and feeling, experiment on the health and lives of my fellow creatures? Am I to give an infinitesimal dose of opium to arrest a fever running on to a fatal termination? a "minute dose of chalk" to cure an urgent catarrh*? or, having discovered some drug which will produce symptoms of acute peritonitis, entrust the life of the first unfortunate patient I meet with labouring under that formidable disease,

* For previous letter, see p. 881.

* This "doth a tale unfold," which many eminent men of the profession could relate.

to a decillionth part of a grain of the same drug? a particle, which bears the same proportion to a grain as one minim of spirit does to the contents of many thousands of cubical vessels, made large enough to hold the orbit of the planet Uranus, or, in other words, the universe*? This I must do, or be denied the right to criticise homœopathy. But, sir, to account for the potency of these doses, we are told in italics, "electricity must necessarily be developed," by the trituration and succussion necessary to manipulating these globules, "of which your correspondent is not aware." I remain, sir, even after this announcement, in profound ignorance, not that the homœopathists had provided this loop-hole, for that I knew before, but how they are to escape through it without endangering their necks, even beyond allopathic cure. Having electrified chalk, capsicum, charcoal, &c. how is the electrical condition preserved in the globules? Then, sir, we are told, these homœopathist globules act "directly on the diseased part." Will Dr. Dunsford inform the profession the exact locality of the diseased part in fever, hydrophobia, tetanus, and chorea? Need I pursue this?

That the imagination exercises a formidable influence in the production and removal of morbid action will not be denied, and I will readily concede that, by acting powerfully on the mind by these mysterious infinitesimal doses, cures may have been effected. Old women's remedies for ague are candle-snuffs and cobwebs: they have cured the disease. The following anecdote was related to me by one of the parties. A physician, deservedly eminent, now practising in London, being on a visit in a marshy district, in the county of Essex, was accosted in his ride by an officer of Excise, who had long suffered from the ague. The poor fellow was a wreck from the disease. He was desired to call upon the doctor in the evening, who, having in the mean time satisfied himself that all kinds of remedies had been perseveringly administered in the case without success, determined not to prescribe, but to obtain the poor fellow's removal to a healthy locality. When the man called the doctor was at tea, and gave him a cup rather mysteriously. The exciseman drank it, and never afterwards had the ague, although he did not immediately leave that neighbourhood. To this day he attributes his recovery to some potent charm in that tea.* Thus, and only thus, *can* homœopathy be successful. To deliberately place reliance upon it as a rational mode of curing *any* disease, requires more faith than I can exercise; but to confide in it for arresting an *acute* one, requires a degree of nerve (I had almost said insensibility) which, happily, few possess.

In conclusion Dr. Dunsford kindly advises me not to venture again to write down homœopathy; this is, at least, disinterested, as he has before assured you "Mr. Smith is our best friend." I am willing to follow the advise on this condition,—that you will admit from the doctor (who I am informed is one of the most talented of homœopathists), a few more defences of that system: a few such victories would consign it to the tombs.

Your obedient servant,

THO. H. SMITH.

St. Mary Cray, Kent.
14th, March, 1840.

* This admits of demonstration; and I may here notice the Doctor's desperate attempt at wit and hoodwinking, where he says, my "pyramids must be infinitesimal, because they only use a few ounces of spirit for their dilutions." I certainly never charged even ahomœ opathist with bottling off the Atlantic for their dilutions; but if they will employ doses which can only be comprehended by taking the universe as a standard of comparison, they must submit to the exposure. Quin's Pharmacopœia will tell your readers how they effect their object.

* I did not ascertain if it had been well stirred, to develop the electricity.

CHRONIC CORYZA.

To the Editor of the Medical Gazette.

SIR,

THE following case is one which, perhaps, may prove interesting to the profession, as furnishing a new proof of the efficacy of cubebs in modifying the morbid secretions of mucous membranes. The utility of this substance has already been attested in cases of morbid secretion from the urethra, vagina, intestinal canal, and conjunctiva; but I am not aware that any observations have been brought forward in which it has been used to combat that affection of the Schneiderean membrane which has been described under the name of "chronic coryza."

This disease, although of no immediate danger, is yet a constant source of annoyance to the patient; and from the copious discharge which it gives rise to, cannot fail of being more or less injurious to the constitution.

The subject of the following case (Mr. S——) was a gentleman, æt. 32, residing at Paris. In consequence of being engaged in literary pursuits, he was leading rather a sedentary life. His general health, however, was good, and he had never been the subject of any severe illness. He placed himself under my care, about four months ago, for a constant cold in the head (as he termed it), with which he had been afflicted during the last fifteen months; never having been entirely free from it during the whole of that period. He had been under the care of a medical practitioner, and had also consulted some of the principal physicians of the French capital, without deriving the slightest benefit from the ptisans, baths, fumigations into the nostrils, &c.; all of which means had been most liberally persevered in. On inquiry, I could not ascertain that any distinct cause could be assigned as the origin of the disease. The state of the patient, when I first saw him, was the following: — The general health was pretty good. He stated that he found himself weaker than formerly, copious perspirations being produced by slight exertion. The digestion was good, but the bowels were rather torpid. There was a constant discharge of thin colourless fluid from the nostrils, with the sensation of their cavities being obstructed, as in ordinary coryza. The discharge was much more considerable sometimes than at others, there being exacerbations every three or four days. On these occasions the state of the patient was really distressing, he being often obliged to pursue his occupations with a basin at his side, into which the discharge from the nostrils flowed. During these exacerbations there was constant sneezing; the hearing was affected, and they were frequently accompanied by headache. No cause could be assigned for these exacerbations: the greatest care against exposure to cold did not prevent them, and they occurred almost as frequently in the latest days of July as during the cold of winter.

Under these circumstances, I determined on administering cubebs, combined with carbonate of iron. The dose I commenced with was half a drachm of recently powdered cubebs and a scruple of carbonate of iron, three times a day. The dose was gradually increased to a drachm and a half of cubebs and two scruples of the carbonate of iron, three times daily. After the medicine had been taken three days, the symptoms became much alleviated, and the discharge from the nostrils was diminished. The patient went on improving, with occasional slight relapses, until, at the end of three weeks, he was quite free from his complaint. The powders were then gradually discontinued. A relapse of considerable severity called for a renewal of the treatment; but wishing to convince myself if it were to the cubebs or carbonate of iron that the late improvement was to be ascribed, I commenced the treatment by the latter; and as the disease was not serious, I continued using it for a week, although without the slightest benefit. The cubebs, not combined with the iron, were again had recourse to, with the effect of immediately diminishing the discharge. At the end of a fortnight the disease had entirely disappeared, but the use of the medicine was persevered in for a fortnight longer. Since this period there has not been any return of the disease, although the season (from December to March) has been the most unfavourable for such affections.—I am sir,

Your obedient servant,

JAMES BLAKE.

University College, London,
March 6, 1840.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Plantæ utiliores. Illustrations of Useful Plants, employed in the Arts and Medicine, &c. By Miss M. A. BURNETT, Sister of the late Gilbert Thomas Burnett, Professor of Botany at King's College, London. Nos. II.—V. London, 1839-40, 4to. pp. 23. Eight coloured lithographs.

THESE four Numbers of the excellent work now before us, contain the Deadly Nightshade *(Atropa Belladonna)*, the Chinese Primrose, the Orange, the Ginger Plant, the Elaterium, the American

Aloe (*Agave Americana*), the Tea Plant, and the Violet. Among the plates we were particularly struck with the beauty of the ginger and the violet, as well as the breadth and freedom of drawing in the Momordica Elaterium.

The account of the experiments, concerning the preparation of elaterium, made by Drs. Clutterbuck, Paris, and Faraday, is particularly instructive; but perhaps the most entertaining papers are those upon the tea plant and the violet. In the former, Miss Burnett gives an extract from a spirited review, by Dr. Johnson, of "A Journal of Eight Days' Journey," by Mr. Hanway. In this pamphlet Mr. Hanway, a very worthy person, somewhat given to think himself infallible, fell foul of tea *unguibus et rostro*, and imagined that half the evils of England proceeded from the infusion of the Chinese leaf. "Men," says the well-meaning Hanway, "seem to have lost their stature and comeliness, and women their beauty. I am not young; but methinks there is not quite so much beauty in this land as there was."

Never was a *but* worse placed. It was precisely *because* Jonas Hanway was no longer young that beauty seemed to him to have decreased. In fact, just look at the picture of Mr. Hanway, solemnly walking along with a big umbrella over his head*, and you will confess, that the *risus jocique*—the graceful levities, that "love to live in dimple sleek,"—must have been scared away by his approach. The young and gay, however fond of spectacles, have no relish for spectacles. Dr. Johnson was not a man to let such a blunder slip, and accordingly answers:—"That there is less beauty in the present race of females than in those who entered the world with us, all of us are inclined to think on whom beauty has ceased to smile: but our fathers and grandfathers made the same complaint before us; and our posterity will still find beauties irresistibly powerful."

Exactly so. Eighty-three years have now elapsed since this prophecy was penned; and we are credibly informed, that many pairs of sparkling eyes are still extant, warranted to burn as brightly, and give as much light, as any that flourished in the days when Hanway was young. Hanway was a man of whom his critic justly said, that his failings might be pardoned for his virtues; but in the matter of tea he was greatly mistaken. When tea does harm, in nine cases out of ten it is probably rather from the large dose of lukewarm water so frequently repeated, than from any properties of the leaf; though strong tea, especially when green, may sometimes effect its share of mischief.

The late Professor Burnett was once employed by the Excise to examine some imitation tea. It was made of common leaves, sloe, ash, &c. &c.; and though, professedly, only an imitation, was supposed to be bought by the grocers to mix with genuine tea. These leaves were harmless, or nearly so; but it seems from our author's account, that sham green tea has actually been made in China from damaged black leaves, to supply a great and sudden demand. Prussian blue was one of the ingredients used in the manufacture, and the tea must consequently have been poisonous.

The violet is a plant of little note in medicine, but in poetry it is of great reputation; and, accordingly, it is illustrated in the work before us by quotations from Homer, Theocritus, the Anthologia, Virgil, Shakspeare, Milton, and Herrick.

These four numbers of Miss Burnett's work confirm the praise we bestowed upon the first one, and show how miraculous cheapness can be combined with remarkable elegance.

* In the Book of Table-Talk, vol. ii. p. 18.—London, 1836.

On the Anatomy of the Breast. By Sir Astley Paston Cooper, Bart. F.R.S. D.C.L. G.C.H. Serjeant-Surgeon to the Queen, Consulting Surgeon of Guy's Hospital, Member of the National Institute of France, &c.

[Concluded from page 887.]

Evolution of the Breast.—The mammary gland is found, in the fœtal state, opposite to that which constitutes the future nipple. It is imbedded in adipose matter, but easily distinguishable by its redness and vascularity: it readily admits of being injected. The nipple contains ducts, and these Sir Astley has succeeded in injecting with quicksilver. Six is the largest number he has thus been able to demonstrate, but he conjectures that there may be more. The gland exists in the male as well as the female, and a plate is given

in illustration. The future progress of the gland is thus described :—

"Immediately after birth a section of the gland still appears of a red colour, and is rather larger than in the fœtus. For twelve months it remains a rounded body about the size of a large pea, still distinguishable by its colour from the surrounding parts. The best mode of seeing it is by making an incision through the nipple and centre of the gland, to the aponeuris of the pectoralis major, in a full-grown fœtus. After twelve months, it loses much of its colour, and it requires minute attention to dissect and develope it, so as clearly to make out its character. Examined at from two to three years of age, the breast appears separated from the surrounding cellular tissue, from its being enclosed in a fascia which not only covers both its surfaces, but enters into its composition ; and by this mode of investing it, renders the gland a distinct and separate organ. It is covered by the two layers of fascia, as in the adult state, one passing before the gland, to connect it with the skin, and one behind it, to join it with the aponeurosis of the pectoralis major. I have given views of the appearance of this gland, at three, at four, at six, and at nine years; at which ages it will be observed to differ but little, excepting that at nine years it is less rounded in its figure. The nipple is a cleft or cavity in the fœtus ; but soon after birth it becomes a cone, and an areola appears around it, which increases but little to the ninth or tenth year, when it becomes somewhat larger, and not quite smooth upon its surface. At twelve years, the nipple is rounded, and the areola becomes prominent, and generally small glands appear upon its surface, and at its margin, where it is connected with the surrounding skin. At fourteen years, the nipple is still more increased ; small clefts appear between the papillæ, which begin to evolve. The areola rises a little around the nipple, from the evolution of the gland behind it. The colour of the nipple is now of a bright red ; that of the areola a little darker; and the roundness and prominence or intumescence of the breasts appear. At fifteen years, a cleft often exists instead of a nipple, and in this cleft the orifices of the milk-tubes are concealed. At sixteen years, the nipple and areola are much evolved, and the former is divided on its apex into numerous papillæ. The areola is of a darker red. At seventeen years, the nipple is evolved, and fitted for its future office. The areola is more than an inch in diameter, and its tubercles and glands are very large. A few straggling hairs appear. At twenty, the appearances are much the same as at seventeen years. At puberty, the mammary glands enlarge, and become prominent, and the breasts assume their roundness, intumescence, and agreeable form, the beauty of which is heightened by the rosy colour of the nipple and areola, and the meandering of the veins under the firm snowy whiteness of the skin give it altogether a marbled appearance. It is not merely the gland that grows, but the fat which is added to the cellular tissue gives to the breast a part of its additional prominence. When puberty commences, the nipple is surrounded by an intumescence from the evolution of the gland around it, and behind the areola ; and another intumescence appears from the evolution of the breast around the areola, forming the mass of the gland. With respect to the changes in the gland itself, they are as follow :—

At the ninth year, the gland increases in its diameter, and forms a thin margin under the skin. At eleven and twelve, the diameter of the gland is greatly increased. At thirteen years it is rather concave upon its anterior surface: its edges are turned up, the cause of which is, that the breast grows faster than the ligamenta suspensoria ; and it sends forth its processes, which unite with the ligamenta suspensoria ; and fix them to the skin : the glandules also appear. At fourteen, the growth has been very considerable ; the diameter of the gland is much increased. At twenty-one, the gland has obtained its full size before lactation. The two layers of fascia are perceptible, with the ligamenta suspensoria going to the skin upon the forepart of the gland, with the fat between them, and the posterior layer of fascia passing to the back of the gland, and to the aponeurosis of the pectoral muscle. In the adult state, and about the middle age, the colour of the nipple is of a brownish red, and that of the areola a little darker. The gland is distinctly lobulated, and its parts move more freely upon each other than at the earlier periods of its evolution. It appears, then, that in infancy the rudiments of

the future gland are formed, and that at puberty a sudden and increased determination of blood to the part evolves those rudiments into the beautiful organ that I am now attempting to describe."

Effects of Gestation and Lactation.— The breasts, as is familiar to all observers, become larger at these times; they receive more abundant supplies of blood; the nipple grows, and the areola becomes darker; all the glands and tubercles of the surrounding skin participate in the development. If the gland be now cut into, it is found to be very red and vascular, from being loaded with blood. The cellules, however, are not at first developed, and thus the mammæ of those who die from puerperal fever are not the best adapted for injection. Our author next proceeds to speak of the milk, and enters into a full account of this secretion, giving, *inter alia*, a very interesting paper furnished to him by Dr. Golding Bird, and which we shall take another opportunity of laying before our readers.

The next chapter treats of lactation, all the best information on which subject is here collected; but the points discussed belong rather to the accoucheur than the surgeon, and, therefore, the details are chiefly borrowed from Sir Astley's friends. Some interesting facts follow, in reference to the change produced by moral impressions.

"*On the Effects of the Mind upon the Secretion.* — The influence of the mind upon the body generally affects the natural functions, and in this circumstance the human subject remarkably differs from other animals. A hurried circulation from over-exercise, or a deficiency of natural food and water, will affect the secretion of milk in all Mammalia, but mental and moral causes influence the production of milk in the human female; and it is this influence of the mind upon the body which operates to produce the fatal effects of injuries in man which other animals suffer with comparative impunity. Lactation is one of those functions which are subject to great changes from mental impressions, for the milk becomes reduced in quantity, altered in quality, and sometimes suddenly arrested from mental agitation; but it generally suffers more in its quality than its quantity. The secretion of milk proceeds best in *a tranquil state of mind* and with a cheerful temper; then the milk is regularly abundant, and agrees well with the child. On the contrary a *fretful temper* lessens the quantity of milk, makes it thin and serous, and it disturbs the child's bowels, producing intestinal fever and much griping, and a woman of a nervous, irritable temperament, makes an indifferent nurse. *Fits of anger* produce a very irritating milk followed by griping sensations in the infant, and green stools are produced, which are often indications of considerable nervous irritation on the part of the child. *Grief* has great influence on lactation, and consequently upon the child. The loss of a near and dear relation, or a change of fortune, will so much diminish the secretion of milk, that a wet nurse often will be required to perform the office of suckling, or it will be necessary to give the child such food as is best adapted to its age and power of digestion. *Anxiety of mind* diminishes the quantity and alters the quality of the milk. The reception of a letter which leaves the mind in anxious suspense, lessens the draught, and the breast becomes empty, the lactiferous tubes and reservoirs ceasing to contain milk in the usual manner. If the child be ill, and the mother is anxious respecting it, she complains to her medical attendant that she has little milk, and that her infant is griped and has frequent green and frothy motions. *Fear* has a powerful influence on the secretion of milk; I am informed by a medical man who practises much amongst the poor, that the apprehension of the brutal conduct of a drunken husband will put a stop for the time to the secretion of milk. When this happens the breast feels knotted and hard, flaccid from the absence of milk, and that which is secreted is highly irritating, and some time elapses before a healthy secretion returns. *Terror*, which is sudden and great fear, instantly stops this secretion. A nurse was hired, and in the morning she had abundance of milk, but having to go fifty miles to the place at which the parents of the child resided, in a common diligence, the horses proved restive, and the passengers were in much danger. When the nurse, who had been greatly terrified, arrived at her place at the end of her journey, the milk had entirely disappeared, and the secretion could not be reproduced, although she was stimulated by spirits, medicine, and by the best local applications a medical man

could suggest. A lady in excellent health, and a good nurse, was overturned in her pony chaise, and when she returned home, pale, and greatly alarmed, she had no milk, nor did it return, and she was obliged to wean her child. Those passions which are generally sources of pleasure, and which, when moderately indulged, are conducive to health, will, when carried to excess, alter, and even entirely arrest the secretion of milk.

On the Effects of Medicine on Lactation.—Medicine has great influence in changing the qualities of the milk. This is proved by those numerous cases with which our hospitals teem, of mothers suffering under eruptions and other forms of disease supposed to be syphilitic, and their infants having eruptions upon the head, the feet, and the nates, with inflammation upon the tunica conjunctiva, and desquamation of the cuticle upon different parts of the body. The mother has mercury given to her by the stomach, or mercury is rubbed upon a good absorbent surface; no medicine is given to the child, but it continues to suck its diseased mother; both mother and child soon improve, and both completely recover, but the child through the influence of the milk alone. Such a number of instances have I seen of these diseases so cured, that there can be no doubt of the fact, and many children perish if the mother be not so treated. *Purgative remedies*, if they be easily absorbed, when given to the mother, produce a similar effect upon the child, but sometimes it would seem that any disturbance of the mother's bowels will produce irritation in those of the child. The medicines which affect the child are olive oil, castor oil, confectio sennæ, and extractum colocynthidis compositum. The saline purges are apt to influence the child's bowels, as the nurses express it, to go to the milk. The best medicines to give to the child, are manna, magnesia, castor oil; injections are very useful. Iodine has been found in the milk by many persons:—"A woman in Guy's Hospital had been taking iodine for a fortnight three times per diem, with five grains of hydriodate of potash; her milk was tested with sulphuric acid and starch, and the strongest indications of iodine were obtained." From the researches of Chevallier, Henry, and Peligot, on the milk of asses, to whom various medicines were administered, it appears that distinct traces of many remedial agents were readily detected in the lacteal secretion. Of these,—Common salt was detected in abundance. Sesqui-carbonate of soda passed in great quantity into the milk, rendering it alkaline. Traces of sulphate of soda when administered in doses of about two ounces were readily detected. Sulphate of quinine, although administered in large doses, did not appear to pass into the milk. Iodide of potassium was readily detected, when administered in doses of a drachm and a half. Oxide of zinc, tris-nitrate of bismuth, and sesqui-oxide of iron, were readily detected in the milk, when these substances were administered to the animal; but no traces of alkaline sulphuret, salts of mercury, or nitrate of potass, could be detected even after the digestion of these drugs in considerable doses."

The changes produced by age are thus detailed:—

"After the cessation of menstruation from age, when pregnancy is no longer possible, the ducts of the breast still continue open, and loaded with mucus, which may be squeezed from the nipple. When the ducts are cut open, the mucus, at an age of between fifty and sixty years, is in a fluid state, and the ducts are extremely distended by it. I collected from the ducts of an old person a quantity of the inspissated mucus, and sent it to Dr. Prout, who found that it was united with oily matter, and with phosphate and carbonate of lime. This state of the tubes arises from the mucous secretion still proceeding in the lining membrane of the ducts, and not being able to escape at their narrow orifices at the nipple, an absorption of the watery part ensues, and the more solid remains united with ossific matter. Although the ducts in age are often very open when the woman has suckled several children, yet the milk cellules are generally incapable of receiving injection, and the ducts inject but imperfectly. The glandules are extremely diminished, and often become entirely absorbed, so that in old age only portions of the ducts remain. The lactiferous tubes in old persons appear cellulous from their being increased where branches of ducts are entering the larger trunks. But there is another and still more curious, but an almost invariable change in age, which is, that the arteries of the breast are ossified as they became useless; not only the larger branches of the mam-

mary arteries, but their trunks also; so that they often become obliterated, and always very much diminished canals, and are with great difficulty injected; but it is necessary to inject them to render them visible, as they are sufficiently apparent, from the load of earth which they contain, when they have been macerated and dried. The veins of the breast are much diminished in age, but the nerves are more easily traced than when the gland is in its most developed state. The nipple becomes long, wrinkled, and relaxed, but in very old age it generally contracts, and resembles a warty excrescence. It appears, then, the effect of age is to absorb the glandular structure, to load the ducts with mucus, to obliterate the milk cells, to excessively ossify the arteries, and to thin and wrinkle the nipple, and at length in a great degree to absorb it. But although the glandular structure be thus absorbed, adipose matter is deposited and occupies its place, and the general contour of the breast is in fat persons thus maintained."

Of the mammary Gland in the Male.—The gland in the male "is a miniature picture" only of that in the female. Sir Astley thinks it is most developed in those men who are of effeminate appearance; and the largest he has ever seen were in a man whose testes were remarkably small. On a superficial examination of the breasts in the male, they present in some much more resemblance to the breasts of women than in others; but this is proved, by dissection, to depend chiefly on the more abundant formation of fat in some than in others.

"The gland is placed immediately behind the base of the nipple or mamilla. It varies extremely in its magnitude, in some persons being only the size of a large pea, in others an inch in diameter, and I have seen it two inches or rather more, and then it reaches even beyond the margin of the areola. Its consistence is very firm, and it often bears a striking resemblance to an absorbent gland. It is rounded at its basis where it sinks into the fibrous and adipose tissue, and gradually lessens at its apex, where it ends in the mamilla or nipple. In its circumference it is rather lobulate, forming depressions, giving it a melon-like appearance. The gland is constituted of two parts,—first, of very minute cells, and secondly, of small conical ducts which divide into numerous branches in the gland, and terminate in straight ducts which end in very minute orifices at the nipple. In their form, in their divisions, and in their course through the nipple, they all form a miniature resemblance of the gland and vessels of the mammary gland in the female. The gland is not situated loosely in the cellular membrane, but is confined by, and enclosed in, a fascia which renders it a separate organ from the surrounding parts."

"It will therefore be seen that the gland in the male, like that of the female, is a regular organ, included and intersected by a fibrous tissue; that it is composed of cells and ducts, which are not too minute to be injected, although with difficulty. The cells are placed in lobules, which do not communicate with each other but through the medium of branches of the principal ducts, but not by any lateral communication. The ducts are not confined to the part of the gland at which they enter, but are spread out from the centre to the circumference, sometimes crossing each other, and they extend to the margin of the gland."

Such are the most important details contained in the valuable work before us; and we trust they will not prove unacceptable to the very large proportion of our readers, whose opportunities of consulting the original will be confined to looking at the plates in some medical library.

MEDICAL GAZETTE.

Friday, March 20, 1840.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

LONDON, ANCIENT AND MODERN.

THE metropolis of England, now almost the metropolis of the world, has made such rapid advances in every branch of social improvement, that to give a complete account of this progress would transcend the efforts of any single historian. It would be enough for one writer, and a diligent one, too, if he confined himself to the progress of domestic comfort, of urban improvement, and of medicine and hygiene.

Dr. Bureaud-Riofrey, in a light and readable sketch now lying before us*, has done something of the kind; but he has given the history of London from the earliest times to the end of the 17th century, without distributing the subject under these heads. This, indeed, is a matter of small moment; a more important objection is, that his essay is too short for his subject. Who can discuss such subjects as the plague, dysentery, sweating sickness, scurvy, water and climate of London, diet of the poor, social state of the poor, emancipation of slaves, suppression of the convents, state of medicine during the middle ages in England, and upwards of forty subjects more, in 120 pages? The book, moreover, is not complete, as it brings down the narrative only to the end of the 17th century, and therefore the most important part of the history of *Londres moderne* is wanting. Let us hope that it may not be long before a continuation appears; or, what we should prefer would be a second edition bearing the marks of deeper investigation. The critic in the Vicar of Wakefield used sagaciously to observe that the picture would have been better if the painter had taken more pains; a critique applicable to a large portion of modern literature.

It seems probable that the progress of domestic comfort has been continuous since the Conquest; yet in the earlier ages after this event it must have been slow, if we judge by the account given by Erasmus of English manners in the time of Henry VIII. Considering that the floors were then of earth covered with rushes, among which lay concealed a mass of bones and filth of every sort, it is difficult to conceive that any thing worse than this ever existed, or that the people who lived in this swinish manner were in a state of improvement. Yet worse things, no doubt, had existed, and the germs of a better mode of life were ripening. Holinshead, writing in Elizabeth's reign, talks of the increase of luxury in several points as expounded to him by "old men yet dwelling in the village where I remain." Three things were specially noted by these living chronicles. One was the multitude of chimnies lately erected; while formerly, in ordinary dwellings, the smoke spread through the room without let or hindrance; and was supposed not only to harden the timbers of the house, but to be a preservative of health. The second was the great amendment of lodging. Straw had been previously the material of the bed; and a good round log played the part of bolster. "If it were so, that the father or the good-man of the house had a mattrass or a flock-bed, and thereto a sack of chaff to rest his head upon, he thought himself to be as well lodged as the lord of the town; so well were they contented." "Pillows," said they, "were thought meet only for women in childbed: as for servants, if they had any sheet above them it was well; for seldom had they any under their bodies to keep them from the pricking straws that ran oft through the canvas, and rased their hardened hides."

From this old use of straw for beds comes the phrase of *the lady in the straw* applied to a woman in child-bed.

The third point was the change of treen or wooden plates into pewter, and wooden spoons into silver or tin. Pewter plates long maintained their reputation for elegance, and did not yield to earthenware till the middle of the last century.

We have just seen that servants often had only one sheet; but, if we may trust Hume's abstract of the Northumberland Household-Book, in the beginning of the 16th century no sheets at all were

* Londres ancien et moderne, ou recherches sur l'état physique et social de cette métropole. Par A. M. Bureaud-Riofrey, Docteur en médecine de la faculté de Paris, &c., Paris et Londres, 1839.

used in that great family. The luxury of cleanliness is probably one of the last devised. Adam Smith, to show the dearness of some manufactures in early ages, mentions the holland bought by the hostess for Falstaff's shirts, at eight shillings the ell*. This would be equal to more than two pounds now. In George the First's reign, we find Pope counselling Gay to sell out as much South Sea stock as would ensure him a clean shirt and a leg of mutton a-day for the rest of his life; but he counselled in vain, and poor Gay was probably reduced to three shirts a-week, and hashed mutton! Every one, when practising physic among the poor, or even among the lower part of the middle classes, must have observed how great is their unconsciousness of the luxury of cleanliness, even when the means of obtaining it are quite within their reach.†

The progress made in diet is equally great, and equally satisfactory. Our ancestors lived on salted meat and fish. Husbandry was so imperfect, that it was impossible to feed the large part of the cattle through the winter; and they were, therefore, killed and salted in the autumn—not only oxen, indeed, but sheep also. This practice was, of course, not limited to England. Hence in Germany, where the months, besides their Roman names, have Teutonic ones, derived from their uses, November is called, Der Schlachtmonath, or the *slaughter-month*, from this necessary custom. The stock laid in for the winter's consumption of a first-rate nobleman was enormous. When the insurgent barons, in the reign of Edward II., ravaged the estates of the elder Spenser, they found in his larder "600 bacons, 80 carcases of beef, 600 muttons. We may observe, that the outrage of which he complained began after the third of May, on the eleventh, new style, as we learn from the same paper. It is easy, therefore, to conjecture, what a vast store of the same kind he must have laid up at the beginning of winter*." Two hundred years afterwards, the family of the Earl of Northumberland ate fresh beef only from Midsummer to Michaelmas. The lower servants, says Hume, "as they ate salted meat almost through the whole year, and with few or no vegetables, had a very bad and unhealthy diet: so that there cannot be anything more erroneous than the magnificent ideas formed of *the Roast Beef of Old England*†." The truth is, that the song of "Oh! the Roast Beef of Old England!" was founded rather on the scarcity than the commonness of the food. People do not cry "Oh!" to their ordinary diet. The loin of beef, as every one knows, has reached a dignity unattainable by plebeian joints, and is called the *sir*-loin. Dr. Johnson says, that "it was knighted by one of our kings in a fit of good humour." The doctor does not seem to have known to which king this paroxysm occurred; a man of rhyme attributes it to Charles the Second ‡.

The progress of diet has been equally remarkable in vegetables. In early times few were cultivated in England for the table; and during many centuries but little advance was made. Dr. Bureaud-Riofrey gives the common story of Queen Catherine sending to Holland for a salad; but though the anecdote is in Hume, we are inclined to

* *Host.* I bought you a dozen of shirts to your back.

Fal. Dowlas, filthy dowlas! I have given them away to bakers' wives, and they have made bolsters of them.

Host. Now, as I am a true woman, holland of eight shillings an ell.

First Part of Henry IV. act iii. scene 3.

† A girl of an Irish family was labouring under fever. Clean sheets were prescribed; for which the parents substituted some linen turned down, so as to impose on the inexperienced. The trick was immediately detected, and clean sheets were placed on the bed. This occurred to us in dispensary practice.

* Hume's History of England, A.D. 1327.

† Ibid. A. D. 1509.

‡ "Our second Charles, of fame facete,
On loin of beef did dine;
He held his sword, pleased, o'er the meat,
'Arise, thou famed *Sir Loin*.'"
Ballad of the New Sir John Barleycorn.

think that this is a mistake, and that the Queen sent, not for a salad, but for a gardener to raise it. We confess, however, that we cannot at this moment produce our authority for this emendation; and a similar story is told of peas. "Common as they now are, they were in Elizabeth's time so scarce, that Fuller says they were then in general brought from Holland, and were 'fit dainties for ladies, they came so far and cost so dear*.'" When speaking of 1660, Hume says "Asparagus, artichokes, cauliflower, and a variety of salads, were about the same time introduced into England†."

Asparagus was known long before; and is put down, indeed, in our British Floras as an indigenous plant. Potatoes, according to Dr. Bureaud-Riofrey, were very dear in the time of James I. "Sous le roi Jacques Ier, on la regardait comme un objet de luxe, et elle l'était en effet, car on voit cette solanée, citée pour la table de la reine, au prix élevée de deux schellings la livre."

The wide-spread use of the potato is comparatively recent. It first became an object of national importance in 1663, when the Royal Society recommended that it should be planted in all parts of the kingdom, to prevent famine. "Notwithstanding all this," says Mr. Rogers, "it was a long time before potatoes were brought into general use; and even in the author's time (above seventy years ago) they were not held in the highest estimation. * * * This palladium against famine was not cultivated in Scotland before the year 1683‡."

We may here remark that every living person has been so accustomed to hear England cited as a model in the arts which minister to social existence, or social comfort, that it is difficult to conceive matters ever to have stood otherwise; yet it is certain that up to the beginning or even to the middle of the last century, England was behind the continent in a number of points where it is now an exemplar. Thus Lady M. W. Montague writes in one of her early letters that she has eaten pine-apple at the Elector of Hanover's table, and does not see why it could not be cultivated in England; and Gray in 1739, tells his mother of "roads which they say are bad for France, but to me they seem gravel walks and bowling-greens." The pine-apple, according to Professor Burnett, "has not been known in Europe above two hundred years, and not cultivated in Britain for more than a century.*

In horticulture and many other useful arts, the race has not been won by those who had the start of centuries. The moral displayed by these facts is, give a nation the requisites of intellectual life—a free press and a representative government—and the objects of material enjoyment follow of themselves. From the means of rapid travel down to the juicy luxuries of the hot-house, all is granted to the people who know how to win their freedom!

In most points of mental culture as well as of external prosperity, England is now so far in advance of the continent, that its example is constantly invoked. Hence the line which the French journalists are so fond of quoting against us,—*penitus toto divisos orbe Britannos*—becomes more and more inapplicable every day; for scarce a fibre can move in the frame of England, but chords vibrate in unison throughout every region under heaven!

Tea still lacks its historian; we want its rise, progress, and effects, discussed with the impartiality of an annalist and the knowledge of a physician. The books say that tea was first introduced into this country by Lord Arlington and

* Burnett's Outlines of Botany, p. 663.
† History of England, A.D. 1660.
‡ The Vegetable Cultivator, p. 240-1.

* Outlines of Botany, p. 444.

Ossory in 1666; yet we also learn that several years earlier Parliament imposed a tax upon the tea drunk in coffeehouses. Had the leaf been imported previously to the supposed date? Or did "coming events cast their shadow before," and did the legislature prepare to welcome the stranger after the ordinary custom? The use of tea increased pretty rapidly; yet even in Queen Anne's time, though common, it was by no means universal. When Addison or Steele talks of all the tea-tables in London and Westminster, we are not to understand as many as there were houses, for the tea-table was still a distinctive mark of a certain degree of fashion. Thus is that famous journal of a retired trades- man, though he scrupulously informs us of the ox-cheek he ate, the purl he drunk, and the Virginia he smoked—nay, though he reveals Mr. Nisby's opinion that laced coffee was bad for the head*—there is not a word of tea, for tea was still rather an exclusive drink. This was in 1712; but in 1715, according to Dr Johnson, not only did we begin the use of green tea, but the practice of drinking tea descended to the lower class of people. The total consumption of tea, however, was so small for a great part of the last century, that it is tolerably clear that the habit of drinking it had not taken root among the majority of the lower orders.

The remainder of this subject we will leave for a future ocasion.

CAUTION TO MEDICAL MEN.

A PIECE of villainy, not very uncommon, has just been practised with success on a medical gentleman in the eastern part of London. A person much muffled up, as if in pain about the face—with a fine head of well-curled black hair—called at his house about half-past eleven on Sunday morning, the 1st instant, and inquired if Mr. —— were at home. He learnt that he had gone to a place of worship, and begged he might be sent for. In the absence of the man-servant he evaded the cook, ascended to the second floor, and broke open a box containing money and other property of value, but only abstracted the former. He was seen leaving the house, not now as a gentleman, but as a servant, carrying his thick coat on his arm, and wearing a fustian jacket, no doubt having also taken off his black wig. This trick is an old one, and the vigilance of servants should be directed to it.

But another theft having just occurred in the house of the same gentleman, by a woman more easy of detection, he is anxious to direct attention to the case:—A stout, and tolerably good-looking woman, about 40, came to ask a little advice on account of her knee. It had been deeply cut, and was not quite healed. She reported that she had been confined in a hospital in the country, under a Mr. Luke, but found that it became worse on walking about. The assistant applied dressing, and treated her with his wonted civility as an object of compassion. She was scarcely out of sight for a minute, and yet she contrived to transfer into her basket the only thing accessible to her—a copy of the Dublin Dissector, belonging to her benefactor.

* Spectator, No. 317.

KING'S COLLEGE HOSPITAL.

DR. WATSON has been appointed Consulting-Physician, and Mr. Arnott, Consulting-Surgeon, to King's College Hospital. This is a very proper compliment to those gentlemen, on the part of the Council.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY,

March 10, 1840.

DR. CLENDINNING, V.P. IN THE CHAIR.

On the Rapid Organization of Fibrin in Cachectic Subjects. By JOHN DALRYMPLE, Assistant-Surgeon to the Royal Ophthalmic Hospital, Moorfields.

THE author proposes in this paper the question, whether the effusions of blood or fibrin that occur in inflammations or other diseases of cachectic subjects become more rapidly organized than similar effusions in more healthy conditions of the constitution. He believes it to be a question of high practical importance to determine which, upon a *primâ facie* view, we should be inclined to negative.

Allusion is made, in the first place, to effusions of non-plastic lymph (loose floating shreds) found in the abdomen of persons dying of puerperal peritonitis. In such cases, however, collapse has been

complete almost from the first, and no attempts at organization are made, as no reparation is attempted in certain cases of penetrating wounds of vital organs. The author then compares the effusions occurring in various diseases, both in the plethoric and cachectic subject, and cites, as examples, syphilitic iritis, fungoid diseases of the eye, &c. Two cases of successful injection, one of fibrin lining a series of small abscesses by Mr. Liston, and the other of a coagulum in a case of scurvy by Mr. Busk, are then brought forward and commented on, as showing the minute organization of these effusions in individuals of the most cachectic habits, the one in the last stage of hectic, the other dying of pure exhaustion.

He then proceeds to show that the growth and development of tumors, possibly of the simpler, certainly of the malignant forms, are much under the influence of the condition of the constitution, and that the more the health is impaired the more rapidly proceeds the development, and the more certain is the fatal result from increase of bulk or extension of the disease.

The author concludes by some observations on the probable mode of the formation of the vessels which organize the effusions, deduced from minute injections and microscopical examination. He imagines that the parietes of the capillary vessels under inflammation lose their tonicity and dilate; that they also become elongated; that they are thrust forward into the effusion by the force of the blood acting *a tergo*. The twisted, looped, convoluted appearance of the vessels, as seen by the microscope, remind us of the varicose state of the veins of the leg, and if one can conceive the thousand capillaries of an inflamed part or surface in this condition, forced into the newly deposited fibrin, we shall have some idea of the probable mode of their formation. Should this theory be correct it would almost follow that in the cachectic subject, as we should meet with a greater want of tonicity of the capillaries, so we should expect to find an earlier extension and prolongation of them into the fibrinous deposits, while the effusions resulting from exosmosis of the liquor sanguinis would appear earlier, in consequence of this same want of tonicity of the parietes.

No practical deductions were offered in this paper, owing to the length to which it had run.

Meeting of March 17th.

A set of extra meetings have been commenced on the alternate Tuesday's, for the purpose of displaying and recording pathological phenomena. We shall give an account of these proceedings in future numbers.

ON THE DEPENDENCE OF THE INTESTINES' MOTIONS ON THE CENTRAL ORGANS OF THE NERVOUS SYSTEM.

By Dr. Julius Budge.

When the abdomen of a living animal is opened, a very slow motion of the intestines is observed; but, if they are left for some time exposed to the air, the motion increases, then becomes very violent, and at last again ceases. The same phenomena occur in an animal which has just been killed; and the intestines are often seen to move for half an hour or an hour, when allowed to be exposed to the air, after death, although no stimulus has been applied to them.

I have performed experiments on the motion of the intestines with the following means:—pricking, tearing, fire, caustic potash, caustic solution of ammonia, lapis infernalis, sulphuric acid, croton oil, tartarized antimony, and extract of belladonna. The mechanical stimuli continued to produce motion longest after death: caustic potash was more powerful than ammonia, sulphuric acid, and lapis infernalis; fire was the weakest stimulus of all. Some drops of a mixture of a scruple of croton oil, and a drachm of linseed-oil, poured both on the external surface, and on the mucous membrane of the intestines, produced very remarkable motions; but tartarized antimony and belladonna were quite powerless.

The stimulated intestine not only moved while it remained within the abdomen, and in connection with the nervous trunks, but when a portion of it was cut and irritated. This motor power, however, is not an original property of either the muscular fibres, or of the nerves which are distributed in the intestines; for even when the cœliac ganglion is stimulated the intestines move (Müller); yet still stimuli will continue to act on the intestines themselves, when they have no influence whatever on the ganglion. Hence we might conclude, that the motor power of the nerves which ramify in the muscular coat of the intestinal canal, is not their peculiar attribute, but a borrowed or communicated power which has obtained a certain degree of independence in them, so that it continues for a long time after the original power from which it was derived is destroyed. The law, according to which more power is communicated to the several parts of the nervous system from its central organs (among which, for a while, we must reckon the sympathetic) than they for the time absolutely require, holds in force not only in the motor, but also in the so-called or-

ganic nervous power. A certain quantity of nervous power may thus accumulate, and continue for a long time to develope itself, without any fresh addition being made to it.

Now the motion of the intestines proceeds proximately from the cœliac ganglion; its stimulus produces movement for a long time after death. The cœliac ganglion receives its nerves, as is well known, from two sources, the spinal cord and the sympathetic nerve. It is regarded as amongst the most important parts of the ganglionic system, and great interest has always been ascribed to it. The question now is, whether the motion of the intestines, which appear to proceed from this ganglion, depends upon it exclusively; whether it depends on the sympathetic nerves, or is communicated from the spinal marrow? To come to a certain conclusion on this point, I have instituted upwards of twenty experiments on dogs, cats, rabbits, pigeons, crows, and sparrows. They have always afforded the same result, if not always with equal clearness, and I can, therefore, maintain that it is correct. I shall relate some of those which appear to me to be the most interesting.

Exp. 1.—I made a cut, some inches long, on the skin over the first lumbar vertebra of a cat, then bent the trunk forcibly forwards, and made a transverse incision through the superficial muscles, between the spinous processes of the first and second lumbar vertebræ, and stuck a strong small scalpel into the spinal cord, from without inwards, and from below upwards. I then carried the instrument close down to the lower surface of the body of the vertebræ, and, by moving it hither and thither, completely divided the spinal cord. The animal discharged some fœces and urine, stretched itself, struck out its hind legs, and moved them several times forcibly backwards, and was then completely paralysed in every part behind the section; every voluntary movement was lost, and the hind limbs hung on the body like a dead mass. During the first day after the operation, the cat was quite lively, and ate and drank; but she then refused food, and died on the fourth day, completely exhausted, and with scarcely strength sufficient to cry. Directly she had drawn her last, I opened the abdomen. I was astonished to find the peristaltic motion of the intestines almost entirely suppressed. There was, indeed, some movement; but it was very slight, and soon entirely ceased. I stimulated the intestinal canal, and the motion was increased, but not to that degree of activity which commonly takes place after irritation. The cœliac ganglion had lost all excitability; neither pricking nor tearing it, nor applying caustic potash to it, produced the least result. The intestines remained unaffected.

Exp. 2.—The spinal cord of a rabbit was divided in the same manner as in the preceding experiment. It died on the fourth day; and, shortly before its death, a small quantity of fæces and urine was discharged. Directly after its death I opened the abdominal cavity. The stomach was immensely distended with food; the intestines empty and transparent. The canal of the latter, which, in these animals, usually moves actively for so long a time, had but a minimum of its peristaltic action; this continued but a short time, and there was then no trace of it—it remained at rest in spite of cold air, cutting, pricking, and caustic potash. Irritation of the cœliac ganglion, in whatever mode effected, was equally without result. A few fibres of the cord in this case were undivided.

Exp. 3.—This was performed in the same manner on a very strong dog, and he lived three weeks; during which time, though he took food at first pretty freely, he did not once pass any fœces. Directly after death, which took place from utter exhaustion, the abdomen was opened. The stomach was distended to an enormous size with chyle; the small intestines were empty, and their walls quite dry. The peristaltic motion was almost entirely obliterated; direct stimuli increased it a little, but irritation of the cœliac ganglion produced no effect. The large intestines contained several dry masses of fæces.

We may hence conclude, that after division of the spinal cord the motor power of the intestinal canal ceases; and, therefore, that the spinal cord, and not the cœliac ganglion, gives the intestines their motion. This is still more definitely proved by the following experiments:—

Exp. 4.—During the division of the spinal cord of a cat, I remarked that the stomach became remarkably distended; I therefore ceased cutting, and separated the skin of the abdomen, and removed some superficial muscular layers without opening the abdomen, so as to excite motion by the contact of the air that would be admitted. I now again introduced my knife into the spinal canal, and could clearly see through the abdominal walls that, at every irritation, the intestine moved vividly, and as repeatedly as I touched the spinal marrow with my knife. The animal died forty-eight hours after in tetanic convulsions.

Exp. 5.—A cat was killed; the abdomen directly opened; the intestines drawn out; the vertebral canal laid open between the first and second lumbar vertebræ; the cord divided, and a portion of it drawn out through the wound. This (the lower) portion was now irritated with a sharp needle, and at every irritation the peristaltic action

evidently increased. I now waited for its complete cessation: and, some time after the intestines had discontinued to move, I stuck a sharp knife into the upper surface of the spinal cord, but no motion took place. I waited a short time, and then stuck the same knife deeper in, and before long the intestine moved vividly. I waited again till it was complely quiet, and then laid a piece of caustic potash on the cord; and now, again, new motions were produced, and they were renewed as often as I passed my knife deeply into it. They became gradnally weaker, and at last completely ceased. I could not discern that the excitability of the cœliac ganglion continued longer than that of the spinal cord, but that of the intestines certainly did. It was also interesting to me to find, in this experiment, that when I stabbed forwards into the spinal canal, the stomach always moved, but not the intestine; whereas, when I stabbed backwards, the reverse was the case.

In Exp. 6. irritation of the vagi and sympathetic nerves on both sides of the neck of a cat, neither produced the slightest increase of peristaltic motion of the intestines, nor renewed it after it had ceased.

Hence, therefore, the distinct proof is obtained, that neither the sympathetic nor the cœliac ganglion contains the source of the intestines' motion. It is moreover proved, with that degree of certainty which one conld expect only from a physical experiment, that the motor power is imparted from the spinal cord to the cœliac ganglion and intestinal nerves. It is probable also, from the experiments, that the nerves meet in the anterior (in the quadrupeds the lower) part of the cord; inasmuch as a superficial irritation did not produce motion. Perhaps the cœliac ganglion has no other function than that of exercising a pressure upon the nerves, so as to serve as a mechanical obstruction to the free production of sensation and motion.

The last consideration now remained, namely, to find the terminal point in the nervous system from which the motion of the intestines proceeds, and beyond which no stimulus would be capable of producing any motion. For it was evident, that the original source was not to be sought for in the spinal cord itself, else the motions ought not to have ceased after its division. After many experiments, then, I have at last succeeded in finding this spot—the corpora quadrigemina and the corpora striata form the central organ for the motion of the intestinal canal.

Exp. 7.—I opened the skull of a young dog who had been just killed, and in a few minutes completely exposed the whole brain. At the same time my assistant had opened the abdominal cavity, and laid out the intestines. I cut away the cerebral hemispheres, raised up the corpus callosum, and irritated with a sharp needle the optic thalami, corpora quadrigemina, and corpora striata, one after the other. The stimulating the corpora striata and quadrigemina increased the motion of the intestines every time. When the peristaltic motion had completely ceased, I could reproduce it by again stimulating these organs, and especially the corpora quadrigemina. This continued to be the case for scarcely five minutes, and then the irritability was entirely destroyed.

Thus it is proved, that the nervous principle of the motion of the intestinal canal is seated in the brain; nay, the spot is accurately determined from which it proceeds, or rather in which the nerves of the canal are concentrated. The central organ of the motion of the stomach was also shown in my experiments; it is in the right corpus striatum: and I have no doubt that all the nerves of the organs whose sources of motion have been hitherto ascribed to the sympathetic, have their point of concentration in the brain.

The above result is very instructive in the explanation which it affords of many sympathies hitherto unintelligible. Especially it explains the sympathy between the intestines and the eyes. Dilatation of the pupil and temporary blindness are well-known symptoms of worms; and we know from Flourens, that the irritation of one of the corpora quadrigemina produces contraction of the opposite iris; that the removal of a portion of one of them weakens the contraction; and the removal of the whole of it completely puts an end to it. Now worms produce, as is well known, a great torpor of the intestinal canal, and its motor power is half paralysed in that disease; it must, therefore, produce the same condition in the vitality of the central organs, at the part where all these motor nerves meet, as if the nerves were compressed or cut; hence the pupil must dilate, just as it does in hydrocephalus, when a large quantity of water presses upon the corpora quadrigemina.

How it is, also, that in the hydrocephalus infantum, obstinate constipation, sinking in of the abdomen, and incredibly rapid emaciation take place, will now appear strange to no one who knows the relation of the brain to the intestinal canal, and remembers, that the power imparted to the motor nerves of the intestines is, in young children, so soon expended. And thus, in like manner, by this demonstration, many other sympathies, hitherto vaguely referred to the sympathetic nerve, are distinctly explained.—*Muller's Archiv.* Heft. v. f. 392.

NOTE ON INSANITY.

To the Editor of the Medical Gazette.

Glasgow Royal Asylum for Lunatics,
3rd February, 1840.

Sir,—I beg to call your attention to an error committed by Dr. Corsellis, in his able Report on the state of the Asylum for the West Riding of Yorkshire.

In a table which he has given of the per centage of cures in various asylums, he rates those of this institution so low as 27 per cent. The true per centage, for the last twenty-five years, has been upwards of 47; and I can account for his error only by supposing that, in looking over our reports, he had mistaken a table containing only a part of the cures, for one containing the whole.

In our next report a table will be given of the results of all the cases treated in this asylum since its opening in 1814, from which it will appear, that the success of this institntion has been equal, if not superior, to that of the best conducted public asylums in Europe.—I am, sir,

Your obedient servant,

Will. Hutcheson, M.D.
Superintendent.

[The above was inadvertently omitted in previous Nos.—Ed. Gaz.]

ANGINA ANTIMONIALIS.

The inflammation of the throat which frequently arises after the use of mercury has been continued for a week or a month, is known by the name of Angina mercurialis. I have nothing to suggest concerning this except that I have always found it tedious, and resisting all the attempts to cure it, but that it gradually disappears as the patient recovers from the cachectic condition, and that it sometimes passes into the chronic angina faucium, with which hysterical and hypochondriacal persons are frequently afflicted, and which is most successfully treated by assafœtida and aloes.

The naming this disease after the metal which produced it, allows me to fix upon the term angina antimonialis for another severe inflammation of the throat, which I have seen to result from the internal use of a strong solution of tartar emetic. A weakly shoemaker was attacked with bronchitis accompanied with much fever. After losing a sufficient quantity of blood he was ordered by his physician to take nitrate of potassa, but on the third day from his attack he took ten grains of tartar emetic dissolved in seven ounces of water, in one day. By this his chest was considerably relieved, but a severe form of angina supervened. The whole mouth and lips were very much swollen, and excoriated in many places, as though from a salivation of mercury. The tongue was deep red, and dry in the middle. The soft palate and throat were likewise of a deep red, and covered with small vesicles, many of which had burst; and these parts were so much swollen and covered with thick mucus, that the poor fellow was quite unable to swallow even liquids, and his breathing was obstructed. On my arrival I ordered the mouth and throat to be well rinsed with a luke-warm decoction of groats, and I observed this serious affection, which was attended with considerable fever and nightly delirium, to give way in three days. The antimony had produced neither vomiting nor purging. Many practitioners order those large doses of tartar emetic in acute diseases, and it is likewise well known that antimonial emetics given to children sometimes cause pustules to break out on the lips and particularly on the nates. In the meantime it deserves to be noticed, and the fact may induce caution, that the careless administration of tartar emetic in such large doses may produce the dangerous state mentioned. — *Troschel, from the Medicinishe Zeitüng*, Oct. 9, 1840.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *March* 10, 1840.

Abscess	3	Heart, diseased	2
Age and Debility	36	Hooping Cough	3
Apoplexy	3	Inflammation	7
Asthma	6	Bowels & Stomach	2
Childbirth	4	Lungs and Pleura	2
Consumption	48	Insanity	1
Convulsions	17	Liver, diseased	1
Dentition	6	Measles	2
Dropsy	7	Mortification	3
Dropsy in the Brain	5	Scrofula	2
Epilepsy	1	Small-pox	3
Erysipelas	2	SoreThroat & Quinsey	1
Fever	7	Thrush	1
Fever, Scarlet	10	Unknown Causes	65
Gout	1		
Hæmorrhage	1	Casualties	6

Decrease of Burials, as compared with the preceding week . . . 23

METEOROLOGICAL JOURNAL.

March.	Thermometer.	Barometer.
Thursday . 5	from 25 to 45	30·33 to 30 31
Friday . . 6	19 47	30 34 30·40
Saturday . 7	22 49	30 42 30·50
Sunday . . 8	24 51	30·52 30·54
Monday . . 9	20 49	30·52 30·46
Tuesday . . 10	24 53	30·32 30·22
Wednesday 11	38 47	30·22 30·23

Wind N.E. on the 5th, E. on the 6th, N.E. on the 7th and two following days; since N.

From the 4th to the afternoon of the 10th, clear; on the afternoon of the 10th, cloudy; the 11th, overcast; a little rain fell during the day. A small meteor with a long train seen in the South about 8 P.M. of the 6th. The barometer again remarkably high, exceeding on the 8th inst. that of the 25th ult. by five-hundredths of an inch.

Notice.—We have to apologize to numerous correspondents for the delay of their papers, as we have been obliged in the present No. to finish various subjects previously begun.

Wilson & Ogilvy, 57, Skinner Street, London.

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